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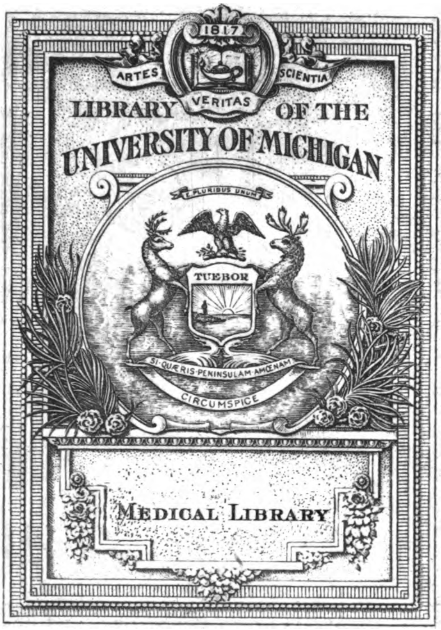

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THE

NEW-YORK
MEDICAL MAGAZINE;

PUBLISHED ANNUALLY,

AND EDITED BY

VALENTINE MOTT, M. D.

PROFESSOR OF THE PRINCIPLES AND OPERATIONS OF SURGERY,
IN THE COLLEGE OF PHYSICIANS AND SURGEONS,
IN THE UNIVERSITY OF NEW-YORK;

AND

HENRY U. ONDERDONK, M. D.

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, LONDON.

VOL. I.

NEW-YORK:
PRINTED BY N. VAN RIPER, 194 GREENWICH-STREET,
FOR THE PROPRIETORS.

1815.

DISTRICT OF NEW-YORK, ss.

Be it remembered, that on the eighteenth day of December in the thirty-eighth year of the Independence of the United States of America, Valentine Mott and Henry U. Onderdonk, of the said District, have deposited in this Office the title of a Book, the right whereof they claim as proprietors, in the words following, to wit:

The New-York Medical Magazine; published annually, and edited by Valentine Mott, M. D. professor of surgery, &c. and Henry U. Onderdonk, M. D. member of the royal college of surgeons, London. January, 1814.

In conformity to an Act of the Congress of the United States, entitled "An Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books to authors and proprietors of such copies, during the time therein mentioned." And also to an Act, entitled "an Act, supplementary to an Act, entitled an Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books to the authors and proprietors of such copies, during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving and etching historical and other prints."

THERON RUDD, Clerk of the New-York District.

PREFACE.

When the "Medical Magazine" was offered to the public for patronage, the editors were particularly careful to promise nothing concerning the proposed work. The value of no book can be stamped by the good intention of the author; it will be settled only by its sterling merit, as discovered on its publication. Yet had such been the nature of a periodical magazine, the editors would never have undertaken the present, even as anonymous. Periodical works claim a privilege to which others are not entitled; as their character does not depend on a single number, they may ask time for improvement. Their greatest merit is seldom sterling. They are not principals in the grand procession of science, but rather heralds to proclaim its advancement to those who, fatigued with the march, have forsaken the train of votaries.

But, it will be asked, if we regard our duties as so humble, why step aside from our more legitimate occupation, and assume the station of reviewers? We shall confess our error, if it can be shewn, that we have set up our judgment as final; that we have used ridicule for argument, to confound the subjects of our remarks; or that we have discussed science on party grounds. But if it shall be found that our dealings have been fair and upright, that we have made argument our only weapon, and truth our only prize, we shall confess no error; we have adopted the very best means of furthering the objects of our magazine.

M.F.M.

PREFACE.

With such views, we need not fear to admit, that we may sometimes be wrong in particular points, and that we are sensible that there is much room for general improvement. Still we cannot, in such a conviction, find sufficient reason for relinquishing our undertaking. If we confess so much with candor, our readers can do no less than receive our work with liberality. And while we find our security in this reciprocity, we shall consider it as our chief incentive to honorable exertion.

◆

Some hints have been given that our work is set at too high a price. We can only answer, that it is self-evident, that a work which does not defray its own expenses, cannot be continued. The receipts for this work barely meet these expenses, (exclusive of the cost of magazines imported by the editors;) should they exceed them, the overplus will be devoted to increasing the size of our numbers.

◆

The junior editor of the "Medical Magazine," having relinquished the practice of medicine, will in future sustain no part of its editorial duties.

Medical
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JANUARY, 1814.

REVIEW.

I.

Observations on the Climate in different parts of America, compared with the climate in corresponding parts of the other continent. To which are added, Remarks on the different complexions of the Human Race; with some account of the Aborigines of America: being an introductory discourse to the History of North Carolina. By Hugh Williamson, *M.D.L.L.D. &c. &c. New-York, Swords,* 1811.

We are happy in having it in our power to make the subject of our first review, the work of an American in favour of America. We have often heard, and sometimes read, discussions, which involved the character of America and its inhabitants, whether aboriginal or from Europe. We have observed much perverseness in these arguments; —seldom has any authority hit the truth, that happy medium which obstinate controversy has never attained, that hallowed sanctuary which is not to be opened with violent hands. We have heard some, guided neither by reason or philosophy, but by a spirit of illiberality and prejudice, decry every thing west of the Gulf stream. But we have generally found that those who propagate such deceptions, speak of some other country as home ; and, that if they do not err through ignorance, they are misled by some powerful mental delusion, not unlike the "vanity of philosophy "falsely so called."

A coat of arms has produced much vanity, and so has a white skin. As the former has been made an argument for nobleness of birth, so has the latter for a radical difference of intellect. And as a palace is more venerable than a cottage, so the old world has been consecrated a mansion of nobility, while the new ranks merely as a log-hut, fit only for savages and degenerate Europeans. To carry our simile farther,—as some well-meaning teachers have insisted on distinctions of rank as necessary in society, and therefore ordained by the Creator ; so have politicians found calumniating America necessary for their schemes of economy, and have dabbled in the puddle of " philosophy and "vain deceit" for arguments to give plausibility to the scandal. Less than a century may complete the practical refutation of these aspersions, in the mean time they are to be met on the field of speculation.

One of the leading objects of Dr. Williamson's book is to prove that there is no essential inferiority in the climate of America ; that there is not, as has been asserted, any "vice of the climate or combination of elements which "prevents the expansion of animated nature, and causes "man and beast to degenerate." Proh Pudor ! can this be requisite ? an extent of continent reaching farther, both north and south, with every degree of temperature, every variety of situation ; with mountains and plains, rivers and seas, such as are found in the old world ; with a similar mineral kingdom, a vegetable kingdom nearly similar, and an animal kingdom not different ;—with all these resemblances, is our climate only to be different and inferiour ? if we could suppose a lunar inhabitant brought near enough to our globe to view its regions as they passed in diurnal revolution, would he judge that our side of the earth was so unseemly that it must generate an evil atmosphere; that our mountains must condense showers less salubrious; that the sun which travelled with healing zephyrs to the favoured trans-atlantics, passed us only to leave evil blasts and a vicious combination of elements: if he were to observe in Africa, immense sand deserts, heating the air and loading it with impurity, and the same latitudes with us chiefly given to the ocean, with a mere waist of land, would he not adjudge us the palm?

There is another view which may be taken of this subject. Whenever the climates of Europe, Asia, or Africa, are noticed, the boundaries of the place criticised upon are given. Thus one character is attributed to that of Lapland, others to those of Great Britain, North France, South France, Italy, &c. Even every island of importance in the East Indies has the character of its climate estimated. The West Indies too have fared tolerably; for although the climate of most of those islands is confessedly unhealthy, yet it contains no combination of elements which is "opposed to the amplification of animated nature."—At these two points the region of Elysium ends. The European sages travelled east and west unhurt; they passed to the pestilential regions of both Indies shielded in the panoply of due quantities of oxygen and azote. Beyond these lay half-known America, whose natural division of climates was lost in one general vice of the elements;—a continent as wild as the reveries of a philosopher, as savage as his hopes.

'The arguments by which America and the original men of America 'have been degraded, are so badly supported by observation or reason, 'that we are induced to look for some powerful motive by which 'certain historians and philosophers, elegant writers and men of genius, 'could be seduced from their usual attention to facts, and their habits 'of correct reasoning. The pride of discovery may have tempted 'some writers to find what does not exist, a new race of men. The 'pride of country may have induced others to regard their own climate 'and their own complexion as having no rivals in nature. Other historians, without sinister views, may have yielded to fashionable opin'ion; but the prevailing motive with certain writers, appears to have 'been a desire to subvert the mosaic history, and with it the christian 'religion. This desire is not concealed by the gentlemen to whom I 'refer, &c.' p. 140. 141.

The first point Dr. W. endeavours to establish as subservient to his main argument, is, that there is no "essential frigidity in the American atmosphere." This he has done to our complete satisfaction. He shews that incorrect notions of the continent, have been adopted from a mere survey of the coast; that the vicissitudes of the weather in that section have been taken as grounds of impeachment for our whole western world. He also adduces the amelioration of climate in some parts of the old world, which he attributes "to cultivation alone," as affording reason for our expecting the same.

'The winters must have been very cold seventeen hundred years 'ago, in Italy, else Juvenal could not have mentioned the necessity of 'cutting the ice, on the Tiber, in order to come at the water. Horace 'could not have described the streets of Rome, as full of ice and snow; 'nor could Virgil, with any propriety, have recommended great attention to young sheep, lest the cold should destroy them.

'In the present age, ice is not found on the Tiber. Cattle are not 'injured by cold in that part of Italy. Neither does the Euxine 'freeze, nor wine, in its vicinity, as formerly they did, when the Roman poet, in pathetic strains, lamented his banishment. The northern part of Spain, as Strabo tells us, were thinly inhabited, by 'reason of the cold. And we are told by Livy, that, for a month together, the ground was covered with snow, four feet deep, at a town 'near Barcelona. Germany was so cold about the same epoch, that 'it would neither produce apples, grapes, nor other fruit. The forests 'in Thrace and Panonia, as we are told by the ancients, were covered 'with snow through the greater part of the year; and white bears 'were common in Thrace as snow in Siberia. There was a considerable degree of cold eighteen hundred years ago in Palestine, where 'they have very little winter at present, and very little cold, towards 'the latter part of March. If we look farther back, one thousand 'years, we shall find that snow and ice were familiar to the inhabitants 'of that country.' p. 18. 19.

Let it be understood that these are historical facts, and that their evidence is not to be shaken by any difficulty in the explanation. Our author explains it however very ingeniously, on the principle that cultivation lessens the frigidity of a climate, and predicts such an amelioration in America.

Our continent, it is well known, may, until lately, have been regarded as one immense forest; the sun's rays have had little or no access to the soil. "The sun's rays falling "upon wet land, or upon land covered with trees, causes "evaporation, and the heat of the surface is reduced in pro-"portion to the fluid that is evaporated in a given time." "It appears, from experiments, (Dr. Hale's experiments) "that land, covered by trees, emits one third more vapour than a surface of the same extent covered with water." We shall presently notice that westerly winds prevail in high latitudes, and particularly on our coast. These winds passing over an immense tract of uncultivated land, bring their charge of cold directly upon us; especially in winter when this tract is frozen or covered with snow. If therefore cultivation will lessen the evaporation, and the admission of solar rays to the soil add to its heat, the prediction is well grounded. These propositions are so simple that it is needless to state them more fully. We must notice Dr. W's. theory of the operation of the solar rays in producing heat.

He favours the opinion that heat depends on the vibratory motion of the particles of bodies, and that "the rays of "the sun, striking the surface of the earth, by which they "are resisted, causes the surface to be heated and the at-"mosphere is heated by the surface of the earth." We cannot but regard this theory as unsatisfactory; it is utterly at variance with the doctrine that heat is a peculiar fluid, which is now generally received, and which is admitted by Dr. W. to be necessary for the explanation of some phenomena. There appears indeed to be very indistinct opinions on this subject. Some think that heat proceeds direct from the sun in a separate ray from that of light. But against this opinion we adduce the following facts. Light passes through glass instantly, heat very slowly. But a lens will ignite a combustible body before itself is hot; and the greater the convexity, that is the thicker the lens, the sooner is this effected. If a number of lenses be employed the igniting power is greatly increased, heat is produced more instantaneously. Again a black colour favours the transmission of heat and intercepts that of light. When solar observations are made, a dark glass is interposed to shield the eye from the light; but it also defends it from the heat, the contrary of which ought to occur if heat proceeds from the sun; the dark glass should facilitate its transmission. Two inferences, strictly logical, may be drawn from these facts; first, that the heat produced as above, does not radiate from the sun; and secondly, that it is produced by the concentration of the rays of light. We are acquainted with only one effect of light upon inanimate bodies, and this is decomposition. Several medicines are injured by long exposure to light, and colours fade from the same cause; that is the surface which reflects the colour is in part changed. Now in most decompositions heat is given out.* We may therefore conclude that light by decomposing a body, causes an evolution of latent heat. In the ordinary light of the sun this is slowly effected, but when a great number of rays are thrown upon one focus, particulaly if the colour on which the focus is formed do not reflect the rays, heat is instantaneously evolved, even to the degree of ignition. That reflected light from the moon does not evolve heat is no objection to this theory, for it does not appear that its rays are sufficiently numerous to effect decomposition.

Whatever be the true theory of the production of heat by the sun's rays, the fact cannot be doubted; and there is the fullest reason to expect, from the more ready admission of them to our soil, by the levelling of forests; and from its more complete exposure to their influence by different agricultural processes, that the surface of our continent will become many degrees warmer. The effects of this change will be extended from the interior to the coast, by means of the westerly winds, which prevail in all high latitudes. We proceed to the explanation of this fact.

'The air under the sun's path, being heated, becomes specifically 'lighter, and escapes to a colder region. Its place in northern lati- 'tudes, is supplied by a column of air from the north-east; but the

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* If we were not afraid of entangling ourselves with unnecessary theory, we should ascribe this to an union of oxygen with the substance decomposed.

' place of that column is also to be supplied; for a constant equilibrium must be preserved. The heated air, from the sun's path, rising to the upper regions, escapes to the northward. In a short time it loses its heat, and moves to the eastward, to supply the place of that column which had lately formed the trade wind, by passing to the south-westward: thus in high latitudes, the prevailing winds should come from the westward, because in low latitudes they come from the eastward. That is to say, the trade winds should be easterly, and in higher latitudes the winds should be westerly.'—p. 6. 7.

Several extracts from registers of the weather are given in note A. Three of these are from observations made near Philadelphia, in which " no account is taken of " the wind when it blew from the north or the south; nor " when it blew from the west and from the east in different parts of the same day. This register indicates the " days in which the wind continued westerly or easterly " through the day."

From October 1748, till Oct. 1749, the wind was westerly 218 days, and easterly 69 days, or nearly 3 1-2 to 1.

In the year 1767, the wind was westerly 225 days, and easterly 101 days, or nearly 2 1-4 to 1.

In the year 1772, the wind was westerly 209 days, and easterly 105 days, or less than 2 to 1.

The same fact is proved as it regards St. Petersburg, Utrecht, Dumfries, Lancaster, Dover and Edinburgh.

The fact of the prevalence of westerly winds in high latitudes being established, and it being well known that winds which cross a large tract of land, or which come from mountains, are colder than those from the ocean, it follows that the leeward coast will always be coldest. This in high latitudes is the eastern. So that it is unfair to compare our atlantic shores with the western coast of Europe. Our western coast will, however, bear the comparison. " Captain Cook, the celebrated navi" gator, observed that vegetation at Nootka Sound, in the " latitude of forty nine degrees, was in great forward" ness in April. Captain Magee, of Boston, who pas" sed a winter at Nootka Sound, informed the writer, " that he saw little snow in that region." The eastern coasts of the two continents are also very similar in climate. Pekin is nearly as far north as New-York; at the latter place we all know the severity of winter, at the former, "the average degree of the thermometer is under "20 in the night, during the winter months, and even in "the day, it is considerably below the freezing point."* As a contrast with these, Madrid may be taken, whose latitude is nearly the same, and where winter is but nominal. Great Britain and Kamschatka, differ but little in their boundaries of latitude, and exemplify the difference of the climate of the western and eastern coasts of the same continent.

From the comparison of easterly and westerly winds near Philadelphia, it will appear that the ratio of the former is increasing. This, if it continue, will reduce the average frigidity of our climate; for easterly winds, coming from the ocean, are warmer than westerly winds, which come from the land, and often from mountains.—Thus far then, the eastern coasts of either continent are similar in their winds and climates, making allowances for the aspect of the countries. And at Pekin, cold winds are brought from mountains, as well as at New-York. We think, however, that the Gulf stream will always make our winds different from those blowing over any other eastern coast. This stream of water, warm from the tropics, lies along our shores, and must add greatly to the causes producing westerly winds. The air above it being heated, rises, and draws a current over us, to supply its place. This is a permanent cause, and will always subject the climate of our coast to vicissitudes, which will make investigations of its nature highly interesting to the American physician.

Dr. Williamson next combats the idea that the aborigines of the American continent are an inferior race of men. This is included in the more comprehensive hypothesis that there are many races of mankind sprung from different originals. This has always appeared to us one of the strangest questions ever agitated. It displays a singular inconsistency, in speculative philosophy Point out to a sage some wonder in nature, and hint that it cannot be rationally explained, but by a reference to the Deity, and he will hunt through every field of his mind, memory, judgment and imagination, to find a natural cause; he will add thousands of years to the age of the world; he will assert or deny a deluge, and he will melt the earth, rather than yield one inch of philosophical ground. But attempt to account for the varieties in the human appearance and conformation by natural causes, and he refers them to a miraculous origin. We sometimes elicit truth from collateral evidence,—what if it were attempted in this case; the house is divided against itself, and it cannot stand.

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* See Pinkerton's Geography.

'The argument by which it is contended, that the human race are 'not all of the same species, appears to rest upon their difference 'from one another in shape and colour; but this argument would be 'weak and futile, if it was applied to vegetables, or to animals of any 'other kind. The species of plants cannot be distinguished by colour. 'The ranunculus, in its native soil is always yellow, when it is transplanted, it acquires various colours. Tulips, auriculas and dianthuses, 'of the same species, differ greatly from one another in colour.—'The smell, taste, colour, and size of pears and plumbs are changed 'by the difference of air, water, climate, and culture. The changes 'that quadrupeds sustain by heat, cold, soil, climate, and food, are not 'less remarkable than the changes that are observed in vegetables.—'The farther they are removed from their native soil, wherever it 'lies, the greater changes they sustain in shape and colour. Quadrupeds of the same family, in the state of nature, are generally of one 'colour; but they become of various colours by domestication and 'rich pastures. Wild cattle are brown; tame cattle are of many 'colours. Horses, deers, and goats, brought into a state of servitude, 'or handled and fed by men, change their colour. The horse of Arabia is strong and beautiful, with short hair and a smooth skin. In 'Russia he is clumsy, with a large head, and is clothed in winter 'with a shaggy, frizzled coat. In China he is weak and spiritless.—'The cow among the Eluth Tartars is seven or eight feet high; in the 'highlands of Scotland she is four feet high; in Cuba she has large 'horns; in Iceland no horns. The sheep, in its wild state, among the 'mountains of Great Tartary and China, is large and bold, high as 'deer, and covered with hair. In Muscovy, Iceland, and some other 'cold countries, it has four or six horns; in temperate climates no 'horns.' &c.—*p*. 35, — 37.

There is an obvious dilemma in which the advocates for a plurality of races of men are entangled. If their assertions be true with respect to man, they must be equally so with respect to all animals. But we may have evidence, almost every century, that all the varieties above noted are interchangeable; and surely if a sheep without horns, and another with six horns, can descend from the same parent; if a cow four feet high, and another seven feet high, acknowledge the same progenitor, we may allow men to differ in facial angles and gibbous legs, in flat foreheads and projecting cheek-bones.

We cannot but remark, that in all the changes which are produced by climate and other natural causes, there is no variety in any essential organ; the brain, heart, liver, &c. never change their form or appearance, the teeth also retain their character. Accordingly, naturalists have adopted some of these parts as affording permanent signs for specific distinction. There is not a single difference in these signs to distinguish mankind into species. We do not believe that the most accurate anatomist could distinguish between the brain of a white man and that of a negro, certainly he could find no general difference in the other parts. Gibbous legs, flat foreheads, and coloured skins, may constitute varieties, but varieties are not predicated upon aboriginal difference.

Our author next defends the mental qualities of our aboriginal brother, from the obloquy that has been heaped upon them. He points out the natural causes which depress the intellectual faculties among all uncivilized nations, and some which are peculiar to the condition of our savages. But we cannot condense his remarks.—We also "are "much interested in the fate of the question," whether the faculties degenerate on this continent, and it cannot be answered better than by pointing out the causes, which have made our literary career less prosperous than our political. In the first place, the commercial goddess, with the splendid cornu of plenty, have proved more alluring than the pale visage of science. Our attention also has been turned to the peopling and cultivating our interior.—

The circumstance of our having no richly endowed literary institutions of long standing, also co-operates; great and extensive learning cannot be diffused without a centre of radiation. Indeed most of the *treasures* of learning are locked up in universities, the wide world is fit for circulating only the smaller coin. We may add, that the facility with which we import European discoveries, has added to the dependant state of American science.

Having thus shewn that our climate, neither by frigidity nor any other cause (mystery always excepted), is calculated to deteriorate the human faculties; that the hypothesis of distinct races of men, is applicable neither to the old world nor the new, it remains only to shew from whence America was settled. Reasoning on this subject, it must be remembered, can never be conclusive, it is a question purely speculative. Some of our nations spring out of emigrations from Norway to Iceland, Greenland, and Labrador (once called Vinland). Others passed from Tartary, and crossed Bhering's Straits, or from one to another of the "little islands, between the northern parts of Asia and America." And that the Peruvians came from India, although at first sight, it seems scarcely credible, is not a mere hypothesis. The Hindoos had a hero or deity named Rama, his wife's name was Sita: "the chief festival "among the Peruvians, was called Ramasitoa." That they possessed nautical skill sufficient for the voyage, is probable from the circumstance of their vedas containing some regulations concerning "mercantile adventures "at sea."

The following remarks respecting the increase of cold and ice in high northern latitudes are very ingenious.

'Upon the supposition of a general deluge it will be admitted, that 'immediately after the flood there could be no ice in any part of the 'ocean. The waters in the northern regions were exactly of the same 'temperature as the waters in the other parts of the ocean, for they 'had the same origin. The fountains of the great deep were broken 'up. The temperature was thirty or forty degrees above the freezing point. In that case, the air in Iceland, or upon the Labrador coast, 'coming from the temperate surface of the ocean, was temperate and 'pleasant. Vegetation in the long days of summer was vigorous, and 'the winter was not sufficiently cold to destroy perennial plants. In 'the process of time the waters near the poles lost a great part of 'their heat, and ice was formed in the creeks and bays. Large cakes 'of ice were occasionally broken off by storms and detached from the 'shore. As the temperature of the ocean decreased, some part of the 'broken ice continued to float through the summer. Every succeeding year added to the size of the floating masses.* They were increased by rains, by snow, and by the spray of the sea. The northern ocean is nearly filled at present by those floating islands of 'ice.' p. 107. 109.

We quote the following as a good specimen of Dr. Williamson's characteristic simplicity of style. It has not the air of deep disquisition, but it is exactly such as we should wish to find all speculative writings, precise in argument without being pompous, and modest in announcing a conclusion.

'The deep and extensive masses of marble, chalk, limestone, and 'other calcareous bodies, that are to be seen in every part of the globe; 'the numerous and thick strata of fossil coals, that are found in different parts of the earth, have been stated as a proof of its great duration. Mountains of limestone and marble, immense bodies of chalk 'and marble, are found in Siberia, Sweden, Germany, Switzerland, 'France, Spain, England, and every other part of the habitable world. 'If we suppose, with some of the moderns, (Dr. Hutton, &c.) that all 'calcareous bodies are formed from the shells, bones, or other exuviæ of different animals, a countless duration of years would be fully 'established; for it is believed that nearly one fourth part of the discoverable earth is calcareous. This argument, however, is not conclusive, for there is reason to believe that calcareous earth is an original substance, from which shells and bones are formed; but not vice 'versa. This kind of earth abounds in marine plants, and in the waters 'of the ocean, that give sustenance to fish; it is also a constituent part 'of the food of all terrestrial animals. For these and similar reasons, it 'may be questioned whether the existing quantity of calcareous earth 'has ever been increased by the growth of animals.

'It has been supposed that fossil coals are formed from vegetables 'that have been covered in the earth. This hypothesis is urged as a proof of great antiquity. The quantity of coals that has already been discovered is very great. They are found in all countries where fuel is in much request. They lie stratum below stratum, to a depth that has not been ascertained. A stratum was long since found in the Austrian Netherlands, that was 800 yards below the surface. The strata of coals lie parallel to one another, at the distance of 100 or 200 feet, and they are separated by strata of slate, limestone, gravel, and sundry kinds of earth. Twenty strata have been wrought in the vicinity of Liege. They differ in thickness from two feet to forty. It is admitted that timber has sometimes been found below the surface, converted into coals; but a few instances of petrolated wood, cannot be given as a proof that fossil coals are usually formed of vegetables. The quantity of bitumen that is daily discharged from springs and lakes, affords a sufficient proof, that the earth abounds in that substance; and it is clear that the inflammable part of coals is bitumen. The ashes of all vegetables afford an alkali; but none is found in the ashes of common fossil coals; from which it is clear that they are not vegetable productions.

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* It is a curious fact, and in perfect coincidence with this theory, that when the first Norwegian colony settled in Greenland, about one thousand years ago, they found no difficulty in approaching the coast, and a regular correspondence was supported with those people for many years. That intercourse was entirely neglected during the dark ages of anarchy and misrule in Europe. Since the revival of learning, within the two last centuries, sundry attempts have been made to discover the remains of that colony who lived on the eastern part of Greenland; but no landing can now be effected on that coast, by reason of the vast bodies of ice with which it is pressed. From this it is clear, that within the last seven or eight hundred years there has been a great increase of ice in high northern latitudes.

'Another argument in favour of the great duration of the earth, is taken from the abundance of marine productions that are found in every part of the world. Marine shells are found in the Alpine rocks, in the Pyrenees, and in the hills of Barbary. In the mountains of Tyrole and Calabria; in those of Lybia, China, Persia, Syria, and all the great mountains of America. Numerous bones of the elephant* and rhinoceros are said to have been found in Siberia at some depth below the surface. From these circumstances it is clear that great revolutions have taken place on the surface of the earth, which seem to indicate a vast duration. It is presumed that much of the land upon which the ocean dwells, was formerly subjected to the plow; for it is clear that much of the present dry land has been covered by water. But these phenomena, in their utmost extent, are not unfriendly to the chronology of Moses; they rather lend it their support; for they seem to have been caused by that very deluge which is mentioned by the sacred historian.' p. 145. 150.

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* It may be suspected that the large bones which have at sundry times been dug up in Siberia, were the bones of that family of quadrupeds, of which an entire carcase has lately been found near Yakoutska, and which had formerly been numbered among the inhabitants of North America. But if the bones of the elephant and rhinoceros have been found in Siberia, as the observers have confidently asserted, it is an incident that cannot be accounted for by any tenable hypothesis, except by recurring to a great and general deluge. But how could it happen that the bones of sundry animals should be found above 2000 miles distant from their native climate? This question is solved by alledging, what is nearly certain, that when "the fountains of the great deep were broken up," the chief lacerations were made in the southern hemisphere, and the waters rushed with a strong current to the northward. In that case they carried with them the carcases of many quadrupeds, &c.

Until we recollected the years which honour the head of our author, we were astonished at finding him a stickler for an orthodoxy almost obsolete. It afforded a repast to our antiquarian curiosity, to witness his patience in searching the Mosaic history. We shall lay by the work, as a legacy for posterity some centuries hence, as a philosophical book, on a speculative subject, written as late as 1811, by a Christian. At that distant age, it will doubtless be recorded, that, " at the beginning of the nineteenth century " the *wisest* part of the world, were idolators. For idols " of matter, was substituted an idol of the mind, and the Jupiter, Parcæ, Brahma, Fo, &c. of gross heathen, were " spiritually embodied in a more powerful deity, whom " they called Chance. This being, though ideal, had a dependant mythology. They conceived the earth to have " been struck off from the sun; but this perhaps, was borrowed from the Egyptians, who traced the Nile to the " mountains of the moon. They believed, the great rocks " of limestone to have been deposited by shell fishes ; these " must have been ranked as demigods from their labours, " and were made co-adjutors with chance, because their united activity was accounted more philosophical than the " fiat of omnipotence. They fabled that chance cut off the " tails of monkeys, shaved their hides, and sent them into " the world to improve and civilize: and that when she " had put men-monkeys upon one continent, she found " them unfit for another, because they had not high cheekbones, bandy-legs, small facial angles, and black skins. " And lastly that finding her monkeys improve too fast, " she sent some new ones into the wilds of America, to " remain in a meaner state of animal amplification ; for " securing which, she created in the soil an essential frigidity, and mingled for its climate a vicious combination " of elements."

II.

Medico Chirurgical Transactions, published by the Medical and Chirurgical Society of London, Volume III. 8vo. pp. 383 ; with seven plates. Longman and Co. 1812.

From the Edinburgh Medical and Surgical Journal.

It has been a subject of frequent observation and regret, for which indeed there has been but too strong a foundation, that with whatever portion of zeal the votaries of medicine have set forth in their professional career, they have too commonly sunk into mere practitioners, and have ceased to contribute their assistance to the improvement of medical science, in proportion as their opportunities and accumulated knowledge rendered them capable of supplying the defects and elucidating the obscurities of their art. Even the best efforts that have been made to bring the stores of experience before the public, seem to have been forced, and therefore transient,—depending in reality upon the personal influence and exertion of two or three active and zealous individuals. Thus to the indefatigable ardour of the first Professor Monro, the public is almost exclusively indebted for the commencement, and entirely for the continuation of the valuable collection of " Edinburgh Medical Essays and Observations," the first specimen of this sort of thesaurus ever published. In like manner, the brief and transient activity of the College of Physicians, in London, which produced three useful volumes of " Medical Transactions," but which has produced nothing more of this sort during as many centuries, appears to have been suggested and carried into effect principally by the zeal of the late amiable and learned Dr. Heberden, whose contributions to the stock of information were both numerous and valuable. And a third and highly valuable collection of papers, the " Medical Observations and Inquiries," appears to have been the result of the united energies of Dr. Fothergill and Dr. William Hunter. The transitoriness of all these publications, therefore, has been only commensurate with that of individual life and strength; increased, in the first and last instances, by the privacy of the association which gave them birth; and, in the second, by the more important political duties of the corporation, which are, in fact, the sole objects of its constitution. It is, therefore, consolatory to observe a society which is instituted upon public principles that may lead to a more permanent establishment, and whose object is exclusively the furthering of medical science, proceeding with the energy and ability, which the speedy publication and valuable contents of this third volume evince,—an energy which appears to

> "Grow with its growth, and strengthen with its strength,"

and affords an earnest of a long continued and fruitful harvest.

The volume opens with an interesting paper of Sir Gilbert Blane's, relative to intermittent and remittent fevers, and the exhalations which occasion them; being chiefly the result of his official investigations of the diseases, which occurred among the English troops in Zealand, in the autumn, 1810. Next to the able, elaborate, and comprehensive work of Dr. Bancroft, the terse and sensible paper before us may be deemed the most satisfactory document extant upon the subject of marsh effluvia, and of the origin of the endemics to which they every where give rise; and the exact correspondence of the facts and inferences, collected by Sir Gilbert Blane, with those so satisfactorily stated by Dr. Bancroft, is gratifying to the mind that seeks anxiously for truth, amidst a mass of contradictory evidence. Sir Gilbert shews, that, notwithstanding the great extent of the sickness, which, at the time of his arrival, rendered two thirds of the army incapable of duty, typhus and dysentery had not appeared except in one or two regiments situated in particular circumstances at Flushing; the whole of the patients were affected by the endemic of marshy districts, which had in a similar manner affected the French troops, who had occupied Flushing during the preceding seven years, and in former times also the Dutch troops from the northern parts of the United Provinces.

The same general facts, which have been observed under similar circumstances elsewhere, were here ascertained by Dr. Blane; and had been distinctly made out by General Monnet, during his long residence there, as was evinced by a *memoire* found in his house. These facts are, the greater liability of new-comers to be affected by the effluvia; and especially of those who come from mountainous and dry countries; the effect of warmth, good diet, and comfortable accommodations in securing individuals from their influence,—the short distance to which their influence reaches either in perpendicular altitude, or horizontally,—the more deleterious qualities of these effluvia than those of the marshes in England, and the progressive increase of malignity in the miasmata of more southern climates,—the long period during which the infection by miasmata often lies dormant, so as to be excited to action by fatigue or exposure to cold some time after the persons have removed to another country,—and the liability to relapse from the same causes,—and, lastly, the obvious connection of these remittents and intermittents with an excessive secretion of bile.

The following practical remarks, as they accord with the statements of the best writers on the *yellow* fever, and other forms of the remittents, deserve to be impressed upon the minds of all practitioners, who may have occasion to meet disease in marshy regions; the repetition of them, however, is, we trust, becoming every day less necessary, as the propriety of regulating the functions of the alimentary canal, and of avoiding stimulants in the early stages of *all* fevers, is daily more clearly perceived.

'It is evident,' says sir G. Blane, 'that the severity of the symp-
'toms of the Zealand fever, added greatly to the difficulty of the cure;
'and there could be *no opportunity* of employing Peruvian bark or o-
'ther specific remedies, till its violence had abated, and the redun-
'dant bile had been carried off. The treatment of the acute state,
'consisted chiefly in giving such remedies as *purged freely*; and in select-

'ing them, the preference was due to those which acted most readily 'on the liver and the bile, such as calomel; those which were least 'heating, as the neutral salts;—and such as were best borne by the 'stomach, which, in a great many cases, was extremely irritable.'

The author bears strong testimony to the powers of opium and arsenic, in curing intermittents, and also remittents, when a complete intermission has been obtained by purgatives of calomel. He administered from 30 to 50 drops of the tincture of opium, a few hours *before* the expected paroxysm. "Sometimes the first administration of "this stopped the paroxysm; but more commonly only alleviated it, and did not stop it till the second or third "time." Arsenic was given in the intervals, especially where the stomach would not bear bark; and Sir Gilbert states, that he has made little use of the oxide of zinc, steel, &c. since he became acquainted with the superior powers of opium and arsenic. We shall have occasion to allude to the peculiar advantages of giving an opiate *previous* to the commencement of the paroxysm, in intermittent diseases, before we conclude this article.

We regret that the number of topics, pressing for notice, prevent us from following the author, through the remainder of this paper, and its appendix, which contain some interesting observations on the variations of health in this country in different periods of its history; these are, however, less original than the preceding portion of the Essay.

Mr. Chevalier has contributed three well detailed papers to this volume, the first of which is the "History of a "remarkable case of Ovarian Dropsy," in a young woman, of 23 years of age. The enormous bulk of the abdomen, which measured sixty-three inches and a half in circumference, and contained (it is estimated) seventeen gallons of water, is the most extraordinary feature of the disease: and the great weight of the fluid was the principal inconvenience suffered by the patient: for the bowels continued regular, and the pulse and respiration were unaffected. An attempt to relieve her of this cumbersome load was made judiciously by moderate successive tappings; but one of two large cysts, connected with the left ovarium, was subsequently affected with a slow, but extensive inflammation, which ended her life in the space of two months.

In a second short paper, Mr. Chevalier describes "an "improved method of tying diseased tonsils," which he illustrates by an engraving, representing the sort of noose which he employs. He *pierces* the enlarged tonsil through the middle of its base, and carries a long double ligature through it, which he brings out at the mouth, and divides, tying one portion round the upper, and the other round the lower half of the tonsil. This produces a good deal of inflammation for about three days; but the tumour is generally detached on the 4th or 5th day, and the sore readily heals.

Mr. Chevalier's third paper contains an interesting "case of spontaneous extravasation of blood, within the "theca vertebralis, which soon terminated fatally." It occurred in a girl of 14, and was accompanied by pain in the back and head, with sickness on sitting up, and a quick pulse. At the end of about a fortnight, she complained of a sudden and violent increase of pain, and was immediately seized with convulsions, in which she expired. On examination, the brain and all the viscera were found to be healthy, and the spine was free from any external morbid appearance: but having cut away the bodies of the lumbar vertebræ, close to the seat of pain, Mr. Chevalier discovered the spinal canal filled with blood. "The blood, though "florid, was not all of an equal tint, it was very imperfect- "ly coagulated; it is therefore probable that the vessel "first gave way at the commencement of the illness, and "again to a much greater extent at the time the convul- "sions came on." Mr. Chevalier mentions also the case of a child a year old, which, after being carried out by a nurse, returned in great pain, and appeared to have lost the use of its lower limbs. It died in three days, and the spinal tube was found filled with a bloody serum, probably "occasioned by slight extravasation from a strain, and "subsequent inflammatory effusion." He likewise mentions the case of a miller, who suddenly lost the use of his lower extremities by lifting a heavy sack, and died in a fortnight. The vertebral canal was found to contain some blood mixed with a sanious matter, and the theca vertebralis was evidently inflamed.

These cases he considers as a sort of partial spinal apoplexy, which should be treated by early bleeding, in order to prevent the increase of the extravasation.

Dr. Merriman communicates two papers on obstetrical subjects, the first of which contains an account of " a case " of difficult parturition, occasioned by a dropsical ovari" um, forming a tumour in the lower part of the pelvis," intended as an illustration of a paper by Mr. Park, of Liverpool, published in the second volume of the Society's Transactions. This woman was parturient of twins, one of which was delivered after opening the head, the other, which was dead, by the natural efforts; but she died of subsequent peritonitis.—In such a case, the practice adopted by Mr. Park, of opening the impeding tumour, (which here lay between the rectum and vagina of the size of a trap-ball,) through the vagina, might have saved the life of one child and the mother. But Dr. Merriman enters into a discussion upon the question, of making an incision into those other tumours of the pelvis, which contain no fluid, but teeth and hair, &c. which are sometimes also impacted in the pelvis; and he concludes that an operation might still be practicable and safe, extirpating either the encysted mass, or the whole diseased ovarium.

The second paper of Dr. Merriman is entitled, " Cases " of premature labour, artificially induced, in women with " distorted pelvis, to which are subjoined some observations " on this method of practice." This is a sensible dissertation on the subject of a practice, which has been occasionally adopted in this country for upwards of half a century, but which has been absurdly condemned by some individuals upon moral grounds. Its physical advantages being fairly estimated, and found to predominate greatly over those of every other proceeding, it were but a waste of words to argue in favour of the use of a practice, against which the possible immoral abuse can alone be urged. Dr. Merriman states the following among other rules by which the adoption of the practice ought to be limited. That the operation should never be undertaken,—till (1) seven complete months of utero-gestation have elapsed,—and (2.) till it has been ascertained by *previous experience* that the mother is incapable of bearing a full-grown fœtus alive,—nor (3.) when she is labouring under any dangerous disease. He suggests too that every care should be taken to guard against the attack of fever, which is not an unfrequent consequence of the premature uterine action; and "lastly, that a regard to his own character should determine the accoucher, not to perform this operation, unless "some other respectable practitioner has seen the patient, "and has acknowledged that the operation is adviseable."

Mr. Parkinson relates a case of disease in the appendix cæci vermiformis, which terminated in ulceration and opening, through which a fluid escaped into the cavity of the peritonæum, and produced a fatal inflammation of that membrane.

Two communications have been presented to the society by Mr. Lawrence, the first of which contains the history and dissections of five varieties of disease, partaking of a fungus character, and occurring in several internal and external organs of the individuals at the same time: some of them resemble the morbid growth, which Dr. Farre has described as the tubera diffusa, affecting the liver, brain, lungs, &c. The first case is related by Mr. Henry Earle; in which the disease occurred most conspicuously in the testicle; but was found on dissection both in the brain and the lungs. In the first of Mr. Lawrence's cases, the fungus growth, the most striking character of which was its "bright yellowish green colour, intermixed with more or "less red, and a few portions nearly white," covered the chest, penetrating the pectoral muscles, and filling the axilla: it affected also the right pleura, especially over the diaphragm, and the peritonæum beneath it; it was found in the pancreas and kidney, and very extensively in the lymphatic glands, in various parts of the body.

No inferences are attempted to be deduced from these singular and anomalous appearances, which can only cease to be anomalous, when the industry of practitioners shall have multiplied the number of records relating to them, and traced their common character.

The second communication from Mr. Lawrence, is a history of a case of a somewhat similar character with the preceding, in which the disease, lately called fungus hæmatodes, appeared also in various external and internal parts, and terminated fatally. It is related by Mr. Langstaff, of Basinghall-Street.

Dr. Farre has given the detail of two cases of "cynan-"che laryngea," that fatal variety of sore-throat, which has not been sufficiently noticed until within these few years, when it deprived the profession of two distinguished members, Dr. Pitcairn, and Sir John Hayes, and has commonly been confounded with *croup*. The second case, in which life was obviously prolonged for a day by the operation of bronchotomy, we shall transcribe.

"A poor, but industrious and temperate man, about 60 years old, on 'Sunday the 31st of March 1811, was affected with a painful and diffi-'cult deglutition, On the following morning, April 1st, alarmed at 'his inability to swallow fluid, which on the attempt being made, 'returned by his nose, he sent for Mr. Weston, who found the tonsils 'inflamed and disposed to ulcerate. A brisk purge was ordered. At 'ten o'clock on the same evening, his respiration suddenly became dif-'ficult, when Mr. Weston immediately drew from his arm 32 ounces 'of blood, which proved to be very sizy. In the course of an hour I 'attended, and observed the character of his disease at this stage.— 'Although the tumefaction of the tonsils was inconsiderable, degluti-'tion was extremely painful, and very difficult: respiration was per-'formed with convulsive and long continued efforts; his voice was 'nearly inaudible, and he could only whisper. He answered my in-'quiry respecting the seat of his suffering, by putting his finger on the 'superior part of the thyroid cartilage. He felt no pain in the chest. 'All the muscles of respiration were thrown into violent action, and he 'lay with his mouth wildly opened, pupils dilated, face pale and sunk-'en, skin covered with a clammy sweat, and his pulse at 133 and small. 'His powers were prostrate, and general bleeding could not be repeat-'ed. The anterior part of the throat was covered with leeches; but 'the disease never paused, At midnight, the operation of bronchoto-'my seemed to be the only resource; and soon after one o'clock, I 'decided on its employment. About two o'clock, Mr. Astley Cooper 'attended, and as suffocation was instantly impending, the operation 'was immediately performed, by dividing, laterally, the ligament which 'connects the thyroid with the cricoid cartilage. The dyspnœa was 'much relieved by the operation. He now lay passive, breathing by 'the natural and artificial apertures, and the inordinate action of the 'muscles of respiration had ceased. He swallowed some nourishment 'with a painful effort. In this state he passed the night, and the greater 'part of the following day. In the afternoon, the respiration by the 'natural passage entirely ceased, but was continued by the artificial 'aperture. He was now evidently sinking, and expired at six in the 'evening.

'April 3d, eight o'clock, A. M. Dissection by Mr. Astley Cooper. 'The right tonsil inflamed and vesicated; the epiglottis swollen, its 'edges meeting behind, excepting just at the upper part. Pharynx 'inflamed, somewhat vesicated, covered with coagulable lymph about 'the epiglottis, but free from inflammation near its termination in the 'œsophagus. The aperture which had been made between the cartilages, 'appeared to be about half the size of the glottis. The mucous membrane of the larynx and trachea was pale. There was some accumulation of mucous in the cells of the lungs, and a slight effusion of serum into their reticular texture. The left pleura partially adhered, 'and the cavities contained rather more fluid than is natural to them. 'The abdominal viscera were not examined.

'I may be allowed to remark,' Dr. Farre adds, 'that Cullen's character of his fourth species of cynanche, will not embrace the cases 'which I have above described. "Cynanche (Pharyngea) cum rubore 'in imis præsertim faucibus; deglutitione maxime difficili, dolentissima; *respiratione satis commoda*; et febre synocha," The anterior 'part of the pharynx was indeed the seat of inflammation; but that 'portion of the membrane being also common to the larynx, it may, 'in a practical sense, be useful to term the disease *laryngea*, because 'it proves fatal by constricting or actually closing the glottis, and constitutes precisely that case which, in its ultimate degree, imperiously 'demands the operation of bronchotomy."

The interesting conversation, which took place in the society when this paper was read, induced Dr. Farre to bring the subject forward again, in a paper printed in a subsequent part of the volume, in which he dwells principally upon the diagnosis and method of treatment of this insidious species of cynanche. The inflammation is most intense at, if not chiefly limited to the mouth of the larynx, whence the rima glottidis becomes so much narrowed as to impede respiration. It cannot easily be mistaken for cynanche tonsillaris; for the visible affection within the fauces is often extremely slight. The principal painful sensation is also felt in the larynx, or about the middle notch of the thyroid cartilage. The difficulty of diagnosis lies between this cynanche laryngea and croup. Dr. Pitcairn wrote on a piece of paper, that his complaint was croup. But, Dr. Farre observes,

'In the cynanche laryngea, the symptoms are, uneasy sensation in 'the larynx, difficult and painful deglutition, partial swelling in the 'fauces, a supervening and perpetually increasing difficulty of breathing, inflammatory fever. In the cynanche trachealis there is a difficulty of breathing, without any swelling in the fauces, or painful 'deglutition, the expirations, especially in coughing, are very shrill, 'the fever is inflammatory.'

The morbid appearance, ascertained by dissection, are considerably different in the two diseases.

'In the former (laryngea), the mucous membrane, investing the 'epiglottis and margin of the glottis, is inflamed; serum is effused under it, or coagulable lymph on its *external* surface, by which the *rima* '*glottidis* is narrowed, or actually closed. In the latter (croup) the 'mucous membrane of the larynx and trachea is inflamed, and a layer 'of coagulated lymph is formed on its *internal* surface, from the extremity of the epiglottis to an indefinite extent within the trachea, 'by which *the tube itself* is narrowed or actually closed: a puriform 'fluid, instead of mucous, is found in the trachea and bronchia.'

The treatment recommended appears to be judicious; namely, copious blood-letting in the first stage of the inflammation, i. e. within 30 hours of its commencement, when the patient feels uneasiness in the larynx, with a very painful and difficult deglutition, which the apparent state of the fauces cannot explain. But if this fail to relieve, and the dyspnœa supervenes, the narrowing of the glottis has commenced; and in this dangerous stage, in which effusion is going on, free local blood-letting, with calomel and tartarized antimony internally, to diminish the activity of the capillary circulation, are advised. But in the advanced period, bronchotomy affords the only chance of escape from suffocation, by enabling the patient to breathe, till the inflammation narrowing the aperture of the glottis may have time to subside.

'That the disease is a local one,' Dr. Farre observes, 'that it is 'acute and of short duration, that it affects a mucous membrane, 'which consequently does not readily take on the adhesive inflammation, or if it should be so acutely inflamed, easily sheds the lymph 'that had been effused on it, are circumstances which, in the otherwise 'hopeless state of the patient, justify a trial of this operation.'

We have dwelt a disproportionate length of time on this topic, on account of the importance and novelty of the disease, which nothing but a sagacious and early discrimination, and an active employment of appropriate treatment, will enable the practitioner to manage with success.

Dr. Yelloly has related an interesting case of Anæsthesia, which sets at defiance all hypotheses, concerning the nature and communication of nervous influence. This occurred in a middle-aged man who had spent many years in Jamaica. He gradually lost all sensation in a great part of the legs and arms, while the power of muscular motion, and the command of the will over the muscles, remained as usual; at the same time the circulation continued active, and the process of healing, when the parts were injured, was quick and natural. We shall quote a few symptoms.

'The hands up to the wrists, and the feet, half way up the leg, are 'perfectly insensible to any species of injury, as cutting, pinching, 'scratching, or burning. The insensibility, however, does not suddenly terminate; but it exists to a certain degree, nearly up to the elbow, and for some distance above the knee. He accidentally put one 'of his feet, some time ago, into boiling-water, but was no otherwise 'aware of the high temperature, than by finding the whole surface a 'complete blister on removing it. No species of injury to a vesicated 'part is felt by him. The extremities are insensible to electrical sparks, 'taken in every variety of mode. The cubital nerve, where it passes 'the elbow, communicates the sensation produced by pressure or a blow 'only half way down the fore-arm.'—'If he wishes to ascertain the 'temperature of any body, he is under the necessity of putting it to 'his face, or neck, or the upper part of his arm.'

Yet there is an unusual irritability of the skin, especially under the influence of heat. For

'On putting his hand, at the desire of a friend, into a pail of hot 'grains, which his friend assured him were not too hot, and to convince 'him of ~~this~~, previously thrust his hand and arm into it, there was a 'very extensive vesication produced. His hands are never free from 'blisters, which he gets by inadvertently putting them too near the 'fire; and he has met with several severe burns, without being aware 'of it.'—'His skin, in general, heals very readily, after being burnt 'or scalded in the most severe way; and there is no fever, nor is there, 'as far as he has been able to determine, any increased heat or throbbing during the process of healing.'—Yet 'immersion in water at '120° produces no change in the affected parts; but exposure to 'the same temperature at a common fire speedily blisters."—" Cold 'water and warm water of every temperature invariably appear lukewarm to him.'—'The power of motion exists in the muscles of both 'hands and feet. With the former he can grasp pretty firmly; but in 'holding any thing he is apt to drop it, if his attention is at all called 'away.'—' The functions are natural, and the pulse regular and moderate.'

The insensibility exists in the muscles as well as integuments; for he allowed the fleshy part of the thumb to be pierced to the bone by a couching needle, from which he experienced no sensation whatever. No treatment, such as the warm bath, electricity, galvanism, tonics, rhus toxicodendron, and mercurial purgatives, produced the least influence on the disease.

Dr. Yelloly has added two analogous cases, one from the American Medical Repository, Vol. IV. p. 225, and another from the " Philosophie Zoologique," Tom. II. p. 262, of Lamark.

Dr. Bree communicates another " case of splenitis, with " further remarks on that disease," which, like the instance related in the preceding volume, evinces the advantage of a steady purgative course in such affections. And Mr. Copeland describes the case of a lady, who had an abscess in the groin, from which a calculus was extracted, after it broke, of an oval form, and more than half an inch in length. This was not a biliary calculus, like that discharged in a case related by Petit, to which Mr. Copeland refers; but was found by Dr. Marcet to be of the fusible kind, consisting of the mixed phosphat of lime and ammoniaco-magnesian phosphat.

Two contributions of Dr. Bostock are characterized by the usual accuracy and perspicuity, which mark every production of his mind. The first consists of some very interesting and novel " observations on diabetes insipidus." The existence of such a disease has of late been doubted, or altogether denied, the mere quantity of urine being considered as depending upon circumstances altogether different from the true diabetic diathesis. But although there was no saccharine matter in the urine of the patient, whose case is described by Dr. Bostock, he found, upon chemical examination, that it differed materially from healthy urine, inasmuch as it contained a very large proportion of animal matter. The residuum, left by slow evaporation of the urine, did not differ, in its physical properties, from the extract of healthy urine. But Dr. Bostock calculates, that, while his patient was passing 7 lb. troy of urine more than the average healthy quantity, she was discharging daily between 9 and 10 ounces of solid matter, or about 8 1-4 more than in the healthy state; i. e. above 6 ounces of urea, and 1 1-2 of salts, more than natural.

To this case, therefore, though no sugar existed in the urine, Dr. Bostock conceives the appellation of diabetes is strictly applicable.

> "It possesses the three pathognomonic symptoms of the disease, the 'increased appetite for food, the suppression of the cutaneous discharge, and especially, the evacuation from the urinary organs of a 'larger quantity than ordinary of animal matter. This latter circumstance is essentially different from the mere increase in the quantity 'of water, a morbid state which has often been confounded with diabetes, but from which I regard it as totally dissimilar.'

Dr. Bostock states a question, whether this disease is the commencement of diabetes mellitus, or has a tendency to terminate in it? which he is disposed to answer in the affirmative; more particularly from the consideration of a case communicated to him by Dr. Lewin. Shrewdly suspecting diabetes from some other symptoms, Dr. Lewin examined the urine, and found it copious: a specimen was sent to Dr. Bostock for examination. There was at this time no sugar; but the urine being again submitted to chemical examination, at a subsequent period, was found saccharine.

> 'To Dr. Lewin's sagacity in detecting the nature of the disease in 'this early stage,' Dr. Bostock observes, 'we may consider ourselves 'as indebted for the important fact, that a small quantity of sugar can 'exist in urine along with a large quantity of urea. The case is almost equally decisive in favour of the conversion of insipid, into 'the saccharine diabetes, and renders it probable that the two states 'alternate with each other, until, as the constitution becomes more 'and more impaired, the saccharine state of the urine predominates.'

We cannot omit the following statement.

'With respect to the *treatment* which was adopted in this case, I 'shall make only a very few remarks. As the urine was not saccharine, animal diet was not prescribed, and those remedies only employed, which were supposed to have the power of strengthening the digestive organs, and reproducing a healthy state of the skin. For the former purpose, the preparations of iron were chiefly relied on, and for the latter the warm bath; but I suspect that the morbid symptoms were so far connected, that whatever tended to relieve the one, was likewise beneficial to the other. The result was completely successful; the constitutional affections disappeared, the urine was reduced to the natural standard, and the surface regained its healthy action. The patient has remained well for above 12 months.'

The second communication of Dr. Bostock is an account of some analytic "experiments on the bark of the "coccoloba uvifera," the extract from which is of a similar nature with the kino used in medicine; but the latter is obviously derived from a different plant. In 100 parts of this bark, there are 50 of woody matter, 41 of tan, and 9 of a balsamic substance.

This volume contains a valuable chemical memoir from the pen of Dr. Berzelius, the intelligent professor of chemistry at Stockholm, who spent the autumn of 1812 in this country: it relates to "the composition of Animal Fluids." As this memoir is itself a condensed summary of several publications, and occupies about eighty pages, we cannot here enter into a minute account of its contents. We may merely observe, that it commences with an analysis of bullocks blood, detailing the chemical properties of all its component parts, such as the fibrin, the colouring-matter, &c. and entering minutely into the investigation relative to the influence of iron in the latter, and then comparing the same parts of human blood, which differs in some respect from that of bullocks. The author then passes to the chemistry of *secreted* fluids, which he discusses generally and individually, including the bile, saliva, the mucus of various membranous organs, the fluids of serous membranes, and the humours of the eye; and afterwards examines the *excreted* fluids, perspiration, urine, and its depositions. He concludes with an analysis of milk. Prof. Berzelius appears to have carefully compared and repeated the analysis of other chemists, on whose inferences he comments with great ability; and on the whole has presented a clear, original, and compendious view of the chemistry of the animal fluids. It tends greatly to establish the value of the recent chemical investigations on these subjects, to observe the accurate coincidence of these analyses, made in a distant country, with those of Dr. Marcet and Dr. Bostock, previously made here; for the difference between them is but in the fraction of units.

Through the hands of Dr. Marcet, by whom the paper just mentioned was introduced to the society, another curious memoir, drawn up by the patient. R. C. Esq. F. R. S. a well-known chemical philosopher, is presented in this volume. It relates to a new mode of curing chronic rheumatism, especially sciatica, which Mr. C. borrowed from *the stable*, after having exhausted, during a series of years, all the expedients of the materia medica, both regular and empirical. After a short history of years of lameness and suffering, and vain efforts to obtain a cure, the writer states;

'Happening about five weeks ago to hear of a case which bore a 'strong analogy to my own, though the subject was not a human 'creature, it suggested to me an experiment which I resolved to try 'immediately. A celebrated race-horse (Vandyk) belonging to a no'bleman very well known at Newmarket, had been cured of a disor'der, which had all the symptoms of rheumatism, by *sweating in body 'clothes*, after every other remedy had failed. I therefore clothed my'self in a sufficient quantity of flannel, and set out to walk as far and 'as fast as I could. With the utmost difficulty I proceeded half a 'mile; and the pain I suffered contributed not a little to the effect of 'the exercise in promoting perspiration. I returned home in a pro'fuse sweat, rubbed myself dry before a fire, and went to bed. In 'about an hour I got up, found myself very much fatigued, but in other 'respects not worse. Forty eight hours after this, I repeated the same 'kind of exercise, and found that I could walk a mile with as much 'ease, as I had walked half that distance on the first day. My gene'ral sensations were the same as before; but, as the fatigue diminish'ed, I thought I could perceive an amendment in my rheumatic pains. 'Two days afterwards I took my third walk, proceeding as before, and 'after it I had a better night, less interrupted by pain, than any I had 'enjoyed for eighteen months. From that moment I looked forward 'with confidence to a cure, and I have not been disappointed. Every 'succeeding walk has diminished my sufferings, and I may safely say,

'that after the sixth, I was as free from pain as I had ever been in my
'life. The only remnant I have left to remind me I was so lately a crip-
'ple, is a weakness in the left leg.' &c.

Some good physiological inferences are attached to this relation. . The body-clothes are fully described, and the gentleman would have outdone the grave digger, in Hamlet, in the number of flannel waistcoats and drawers which he pulled off on returning from his walk.

The volume contains three other papers ; one from Dr. A. P. Wilson Philip of Worcester, detailing a severe case of disease in the organs of respiration, with the dissection ;—a brief chemical notice by Dr. Marcet, respecting the use of the nitrat of silver, in detecting minute portions of arsenic ; and lastly, the "history of a case of remitting oph-"thalmia, and its successful treatment by opium," by Dr. Curry, of Guy's Hospital. This history is detailed with all the minuteness and point, which an acute medical observer might be expected to impress upon the relation of his own case. The principal circumstance illustrated by this case, is the important relief obtained by a full dose of opium, given *previous* to the exacerbation, in a most violent, painful, and alarming degree of ophthalmia, which was remittent, and recurred in daily paroxysms, after copious local depletion had been employed in vain. It was further proved, that the opiate, taken *after* the paroxysm had begun, aggravated its violence and lengthened its duration. This is perhaps a matter of general occurrence in intermitting diseases ; the same anodynes and stimulants which will diminish or altogther prevent a paroxysm, if administered a short time previous to its occurrence, will both augment and protract the evil, if given during its existence.

III.

A treatise on some practical points, relating to the Diseases of the eye, by the late John Cunningham Saunders, demonstrator of Anatomy, at St. Thomas's Hospital, founder and surgeon of the London Infirmary, for curing diseases of the eye. To which is added, a short account of the author's life, and his method of curing the congenital cataract, by his friend and colleague, J. R. Farre, *M.D. London,* 1811.

The work before us contains many practical hints of great value; no new discoveries indeed, but such light reflected on the inventions of others, as proves that Mr. Saunders thought for himself. It is divided into six chapters, the three first by Mr. S. and the others compiled from his notes, and enlarged by Dr. Farre. These we proceed to analyse.

The first chapter is on inflammation of the conjunctiva, or as it is commonly called purulent ophthalmia; as it occurs in infants more especially. It is liable, when violent, to end in opacity, ulceration, and sloughing of the cornea.

‘ The inflammation commences by a slight redness on the inside of the eye-lids, particularly about the inner canthi; they are soon covered with a thin gluy matter, which quickly inspissating, fastens them together, and when they are forcibly opened a large gush of tears succeeds. The eye-lids tumefy very soon; the viscid discharge increases in quantity and speedily assumes a purulent form, whilst the tumefaction of the palpebræ increases. The conjunctiva now loses its character, its vascularity becomes extreme, and the minute colourless vessels which nourish its own peculiar texture, are so enlarged and turgid with arterial blood, that the large branches which run beneath it are totally obscured. The surface of the conjunctiva is of a beautiful scarlet, and resembles (to use an anatomical illustration) a finely injected fœtal stomach. The swelling of the palpebræ is so great, that when the child cries, the orbicularis muscle projects the morbid conjunctiva and consequently everts the eye-lids; ejecting at the same time a considerable quantity of the puriform discharge. As the disease advances the cornea becomes more or less 'cloudy, and by the extent of this cloudiness the degree of approaching slough is marked: for the whole of the cornea, if the whole become cloudy, will ultimately slough, and the form of the eye be totally destroyed. p. 34.

On account of its tendency to the latter termination, Mr. S. considers it as "nearly allied to erysipelatous inflammation." His plan of treatment is the antiphlogistic, stimulating injections are of course condemned, and general and local bloodletting directed to be vigorously pursued; in a child, leeches may be applied so as to produce the "effect of general as well as local bleeding, which will "be known by the child's skin becoming pale." The use of leeches, as near the eyes as possible, Mr. S. prefers to scarifying the conjunctiva, which he thinks injurious, and different from the practice in any local inflammation.—Here we cannot but dissent. We do not cut into any other inflamed part, because in no other are the vessels so much distended; the arteries and veins of the conjunctiva in acute ophthalmia, may be considered varicose as well as inflamed. Indeed we may argue, that if as great a discharge of blood could be afforded from the vessels of any other inflamed part, we should not hesitate to divide them, as we certainly do not to drain them by leeches.

If sloughing occur, a moderately astringent injection is to be applied to the ulcerated surface. A succession of sloughs is often a very obstinate symptom, and is best encountered by the use of the bark; the extract is particularly adapted for children. Lunar caustic in substance or solution appears to be the most efficacious application to the ulcer.

The upper eye-lid is so tumefied in many cases, that it is very difficult to open the eye, it *must*, however, be opened frequently, and our author very ingeniously overcame this difficulty by means of Pellier's elevator. If the conjunctiva, be so much enlarged as to protrude between the eye-lids, it is to be cut off.

The second chapter is on inflammation of the iris.

'As soon as this delicate and irritable substance is attacked with inflammation, the brilliancy of its colour fades, it becomes thickened and puckered, the inner margin is turned towards the crystalline lens, 'and the pupil is exceedingly contracted. The vascularity of the 'sclerotica is very great, whilst that of the conjunctiva remains much 'as usual, and it may be easily perceived that the plexus of vessels lies 'within the latter tunic. The inosculations of those minute vessels are 'very numerous, and form a species of zone in the junction of the sclerotica and transparent cornea. The vessels disappear at this part 'as they penetrate the sclerotica, in order to pass to the inflamed iris, 'and are not continued over the transparent cornea, as in a case of 'simple ophthalmia.''—p. 21, 22.

Great irritation on exposure to light and shooting pains in the orbit, attend this formidable inflammation. It generally terminates in a deposition of lymph upon and behind the iris; in the latter situation, often in such quantity "as to extend through the pupil and to drop pendulous to "the bottom of the anterior chamber." This either obliterates the pupil, or contracts it to a very minute size, and causes adhesion of the iris to the capsule of the lens.

Leeches are to be applied, and the antiphlogistic plan rigorously pursued in the early stages. General bleeding, is also proper; but the author thinks that opening the temporal artery has no greater effect than venesection in the arm.—Had one of the veins of the head been chosen for this comparison, we might have yielded to Mr. S's experience, the argument drawn from the proximity of the vessel to the inflamed part. But for the very reason that arteriotomy is undervalued, we would give it the preference. Mr. S. thinks the anastomoses of the minute inflamed vessels will secure them a full supply of blood from many sources; but opening the temporal artery is cutting off one of these sources, and the anastomoses give us assurance, that it will be felt in the eye nearly as much as if the optic artery itself were opened.

The use of blisters behind the ears, or to the back of the neck, has not been hinted at by Mr. S. in either of these two chapters. We regard them as very efficacious in both purulent ophthalmia, and inflammation of the iris. When the cornea begins to grow opake, they are far superior to any application made directly to the eyes.

Surgeons fond of operating may restore the pupil by cutting a hole in the iris. We cannot omit this opportunity of urging a caution against all operations on the iris. The effects just enumerated prove that what we attempt on this delicate part is attempted with great risk, no less than the loss of vision. It is only therefore where there is no pupil, or where there is a very large central opacity on the cornea, that making a new pupil by cutting the iris, or separating it from the ciliary ligament, should be attempted.

The singular power of the extract of belladonna in effecting a dilatation of the pupil, is taken advantage of by our author for preventing its closure. During the whole period that lymph is depositing, this substance is to be applied to the eye, or eye-lid three times a day; the radiated fibres of the iris contract, and the lymph is elongated and converted into mere threads and films; so that a passage for the rays of light is secured, even though it be not quite regular in its form.

The third chapter is "on the cure of the inversion of the "upper eye-lid, by excision of the tarsus." We were struck with the opinion, that the cartilaginous tarsus is provided only to serve as a firm support for the eye-lashes; and we think it will be found sufficiently correct.* The practical use Mr. S. makes of this opinion is, that the cartilage is not indispensable in the eye-lid, and may be cut out. The inversion of the lid, of itself, but more particularly by turning the cilia upon the eye, produces great irritation and pain; and is often so obstinate as to preclude the hope of a cure. In such a case, the following is the practice of Mr. Saunders.

'A piece of thin horn, or a plate of silver, having a curvature corresponding with that of the eye-lid, is to be introduced, and its concavity turned towards the globe, within the eye-lid, which is to be stretched upon it. An incision is to be made through the integuments and orbicularis palpebrarum immediately behind the roots of the cilia to the tarsus, and should extend from the punctum lachrymale to the external angle. The exterior surface of the tarsus is then to be dissected until the orbital margin is exposed, when the conjunctiva is to be cut through directly by the side of the tarsus, which must now be disengaged at each extremity—the only caution necessary being to leave the punctum lachrymale uninjured. p. 53.

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* The cartilage of the tarsus serves also to thrust the loose skin under the orbital ridge when the eye is opened.—E.

Inversion of the lower eye-lid and cilia is not so common. It may however occur from the pressure of a tumour, or of the tumefied conjunctiva, upon the orbital edge of the tarsus, forcing that edge outwards and the other of course inwards. Adhesive plasters may be applied to the lid, so as to restore its proper position; but if this fail, the operation may be performed.

The fourth chapter contains many interesting notes and cases relating to the terminations of ophthalmia. These it is impossible to abridge. If the author had lived to finish his work, they would doubtless have been included in the two first chapters. We quote the following as a specimen of the discrimating acumen of Mr. Saunders.

> 'The diagnosis between syphilitic and simple inflammation of the iris 'may be formed from the following appearances:—In the syphilitic, 'the iris is much more thickened and puckered, the texture appears 'more changed, the irritation on exposure to light is less, the pain is 'most intense at night, red vessels are seen in the substance of the 'iris—a circumstance not often observed in the early stage of simple 'inflammation of the iris, in which patients, from the severity of the 'pain, are sooner induced to apply for relief—the pupil is not so much 'contracted as in the simple inflammation; and although the general 'appearance of disease be greater, the pain is actually less, the blindness is often total:—to which, perhaps, may be added, that the lymph 'is deposited, as it were, in drops, and assumes a tubercular appearance. p. 64.

The argentum nitratum is of course conspicuous as an application to sloughing ulcers of the cornea, and seemed almost a specific in effecting an adhesion of the iris to the cornea, when it had protruded through the fissures of these sloughy sores. "The intention in the mode of treatment is "to arrest the sloughing process, and to excite the adhe- "sive, by which the protruding iris will be united to the "breach in the cornea, and its further prolapse will be pre- "vented." Would it not have been more reasonable to have first produced a retraction of the iris by the extract of belladonna, and then to have excited the adhesive process?

The fifth chapter treats of fungus in the eye, which may be free from malignancy, or malignant. The former seems to arise from the organisation of lymph which has been thrown out; it becomes vascular, and rapidly increases till it protrudes from the eye.

‘ This was the state of the eye : The sclerotica was unusually vascular,
‘ but not inflamed. The vessels, were large and serpentine.—
‘ The iris, retired from its situation, seemed to be twice as far from
‘ the cornea as is natural. The pupil was dilated, and the iris contained
‘ many distinct red vessels. The cornea, the aqueous, crystalline,
‘ and vitreous humours were at this time transparent. In the
‘ course of a few weeks the crystalline became opake ; the iris, covered
‘ with lymph, and as red as if injected, advanced towards and touched
‘ the cornea ; shortly, a blue excrescence was thrown out at the
‘ superior part of the eye ; at that part of the sclerotica which unites
‘ with the ciliary ligament. It increased rapidly and became as large
‘ as the anterior portion of the globe. This tumour ulcerated, for a
‘ long time a thin watery fluid was discharged, then pus, and lymph
‘ which trailed out through the aperture. After some months this
‘ aperture closed, the eye-ball, much reduced in bulk, became tranquil,
‘ and even retained some vestiges of the cornea, the blue excrescence
‘ being totally extinct. During this progress there was nothing
‘ like acute inflammation, and the pain was very trivial. p. 118. 119.

Malignant fungi are various in appearance, and slower in their progress, and it does not appear that even excision was successful in any of Mr. S's. cases. The following case will exemplify this disease.

‘ At the age of nine months, the disease commenced in the left eye
‘ of Master E. L. which when I first saw him, although not inflamed,
‘ was vascular and a little enlarged. The iris, in particular, was full
‘ of red vessels, and the pupil was very large and fixed. The retina
‘ appeared like a concave silver plate, in the posterior part of the
‘ eye. This eye was blind, but he suffered little or no pain, and was,
‘ in other respects, in good health. At the age of fifteen months the
‘ right eye was attacked, and exhibited similar appearances. The
‘ left eye was now much changed : the crystalline lens had dropped
‘ from its situation, and lay in an opake state at the inferior part of
‘ the vitreous humour. About three months before his death, the
‘ left eye, which had been for some time very irritable, suddenly enlarged,
‘ and began to protrude beyond the eye-lids in the form of a
‘ red mass, which ultimately acquired the size of a large apple.—
‘ About a fortnight before his dissolution, he fell into a state of stupor,
‘ with occasional screaming. He soon became frequently convulsed,
‘ and died in one of these fits. p. 120. 121.

In one of the cases the appearance of the diseased retina was tawny.—We do not find any hint that these were cases of fungus hæmatodes, of late a most comprehensive title. A less practical surgeon than Mr. Saunders, might not have been content with leaving the fungus without a name.

The sixth chapter will occupy the rest of our attention; it contains the account of the author's method of operating for congenital cataract. Some bookworm has discovered that this was practised by one Conradi in Germany, ten or fifteen years before, so that we can account for Mr. Saunders' modesty in speaking of it merely as adapted by him to the cases of congenital cataract.

'Until the author directed his attention to this interesting subject, 'no surgeon appears to have given it a distinct consideration, or to 'have viewed it in any other light than as an occasional variety of the 'disease, which was to be treated precisely by the same means as the 'cataract of the adult. The bolder operators who have essayed these 'means, have found them to be inapplicable to the condition of infan'cy; and therefore the child thus affected, has been consigned to 'blindness for at least the first eight years of its existence, as a less 'evil than the hazard of an operation at so tender an age.

'The efforts of nature in disease are seldom stationary, and even 'when they fail to accomplish the cure, the correctness of the inten'tion may be clearly discerned: thus in the congenital cataract, after 'the crystalline lens is converted into an opake substance, it is gra'dually absorbed; and in proportion to the progress of absorption, 'the anterior lamella of the capsule retires upon the posterior until 'they form one membrane, which is white, opake, and very elastic.— 'This is the conversion of the lenticular into the capsular cataract: 'all that is capable of being absorbed nature herself removes, and she 'only fails to accomplish her purpose, because the capsule cannot be 'destroyed by this process. It will presently be shewn in what pro'portion this result occurs, and as the process is commonly completed 'long before the eighth year, the surgeon, who is now called upon to 'fulfil his engagement, finds a substance which he will in vain endea'vour either to extract or depress.

'Although the congenital cataract is a frequent disease, yet its 'cause is necessarily obscure, because it commences at that period of 'human existence which seems to preclude the observations of the pa'thologist. It has been said, that as soon as the lens becomes opake, 'the absorption of it generally commences; but among the exceptions 'to this order of events, there is one sufficiently frequent and remark'able to engage our notice. There is a form of the congenital cataract 'in which the centre of the lens is opake, and its circumference is per'fectly transparent. In these cases the lens remains of its natural size, 'as long as its circumference preserves its transparency, which, if un-

'disturbed, it will do for many years; but as soon as the capsule and 'lens are penetrated, even with the finest instrument, the opacity pro'ceeds, and is soon completed, sometimes in the space of two days.—'From this period the process of absorption commences, and the bulk 'of the lens is diminished with greater or less rapidity in proportion to 'the manner in which the wound has been inflicted. Inflammation is 'thus ascertained to be a cause of cataract. It remains to be observ'ed, whether the congenital cataract may not also be referred to a 'change of structure which is independent of inflammation, or to actual 'malformation.'' p. 131. 134.

'— the majority of these cases are capsular cataracts, and the only 'difficulty in the way of nature is the capsule. To effect a perma'nent aperture in the centre of this membrane, is the business of art, 'and applies to every case of congenital cataract which can occur.''—'p. 137.

'The excessive mobility of the eye, the unsteadiness of the little 'patient, the small field for the operation, and the flexibility of the 'opake capsule are the difficulties with which the surgeon has to con'tend. The author overcame them by fixing the eye-ball with Pel'lier's elevator, controlling the patient, dilating the pupil with the 'belladonna, and by using a diminutive needle, armed with a cutting 'edge from its shoulders to its point, and thin enough to penetrate 'with the most perfect facility.

'The extract of belladonna, diluted with water to the consistence 'of cream, is dropped into the eye, or to avoid irritation, the extract 'itself is smeared over the eye-lid and brow. In the space of half an 'hour, or rarely exceeding an hour, the pupil is fully dilated, and the 'application should then be washed from the appendages of the eye. 'The child must now be placed on a table parallel with a window, 'from which the eye, that is to be submitted to the operation, is 'farthest. Four assistants, and in stouter children five, are required 'to confine the patient. The first fixes the head with reversed hands, 'the second not only depresses the lower lid with his fore finger, but 'also receives the chin of the child between his thumb and fore fin'ger, as in a crutch. By this means the play of the head on the 'breast is prevented, a motion which the child incessantly attempts, 'and which will very much embarrass the surgeon. The third assis'tant confines the upper extremities and body; the fourth, the lower 'extremities. The surgeon, seated on a high chair behind the patient, 'and taking Pellier's elevator in his left hand, and the author's needle 'in his right, if he is about to operate on the right eye, or the speculum 'in his right hand, and the needle in his left, if the operation is to be 'performed on the left eye, proceeds in the following manner.

ANTERIOR OPERATION.

I.——ON A CAPSULE CONTAINING AN OPAKE LENS.

'The surgeon gently introduces the bow of the speculum under the 'upper eye-lid, his assistant at the same time depressing the lower, 'and at the moment he is about to pierce the cornea, he fixes the eye 'by resting the speculum with a moderate pressure on the eye-ball. 'The position of the operator enables him to do this with perfect safety, and by that consent which can only exist between the hands of 'the same person, he not only discontinues the pressure, by using the 'speculum merely as an elevator of the lid, as soon as his purpose is 'accomplished, but he with facility renews or regulates the pressure at 'any moment in which it may be required. He penetrates the cornea 'as near to its junction with the sclerotica as it will admit the flat surface of the needle to pass, in a direction parallel and close to the iris, 'without injuring this membrane. When the point of the needle has 'arrived at the centre of the dilated pupil, he does not boldly plunge it 'through the capsule into the lens, and perform any depressing motion; it is a material object with him not to injure the vitreous humour or its capsule; neither does he lift the capsule of the lens on 'the point of the needle, and by forcibly drawing it forward into the 'anterior chamber, rend it through its whole extent. Such an operation would dislocate the lens, deliver it into the anterior chamber, or 'leave it projecting in the pupil, and stretching the iris; and, although 'its soft texture in the child should exempt him from any disorganizing 'inflammation, the most favourable result will be a permanently dilated 'iris, deforming the eye. He proceeds with a gentle lateral motion, 'working with the point and shoulders of the needle only on the surface and centre of the capsule, in a circumference which does not exceed the natural size of the pupil. His object is *permanently* to destroy this central portion of the capsule: merely to pierce it would 'not answer his intention, because the adhesive process will speedily 'close the wound. Having acted upon the centre of the anterior lamella of the capsule to the extent which he wishes, he gently sinks 'the needle into the body of the lens, and moderately opens its texture. In doing this he may, if he pleases, incline the edge of the 'needle, by which motion the aqueous humour will escape, and the lens 'will approach his instrument; but at the same time his field for operating will be diminished by the contraction of the pupil. The 'needle and speculum are now to be withdrawn, the eye is to be 'lightly covered, and the patient put to bed.

'Inflammation is seldom excited by this operation on the child; but 'its first approach, marked by pain and unusual redness of the conjunctiva, or serous effusion under it, must immediately be arrested by the

‘ application of leeches on the palpebræ, and, in stouter children, by ‘ bleeding from the arm, followed by purgatives and a very low diet.— ‘ Soon after the operation, the extract of belladonna should be applied ‘ over the eye-brow, to prevent, by a dilatation of the iris, the adhe- ‘ sion of the pupillary margin to the wounded capsule. Nature now ‘ performs her part of the cure, and the lens, loosened in its texture, ‘ and through the aperture in the capsule subjected to the action of the ‘ aqueous humour, is gradually dissolved and absorbed.

‘ A single operation sometimes suffices, and the cure is completed in ‘ the space of a few weeks; but if the process does not advance with ‘ sufficient rapidity, the operation may be repeated once or oftener, ‘ interposing at least a fortnight between each operation. If the adhe- ‘ sive process has counteracted his former operation on the capsule, ‘ he will take care now to effect the permanent aperture in its centre, ‘ and he may use greater liberty than at first, in opening the texture of ‘ the lens.

‘ Some have supposed that the fluid cataract is not only the most ‘ frequent, but the most manageable of the congenital cases. Both ‘ suppositions are erroneous. It is not only the least common, but ‘ the fluid, when extravasated, sometimes excites a hazardous inflam- ‘ mation. In these cases, after puncturing the anterior lamella of the ‘ capsule, and discharging its contents into the anterior chamber, it ‘ will be prudent to desist for the time, and to guard against inflam- ‘ mation: by this operation the case will be converted into a capsular ‘ cataract.

II.——ON AN OPAKE CAPSULE, ITS LENS HAVING BEEN NEARLY, OR QUITE ABSORBED.

‘ The surgeon may in this case use the needle with much more ‘ freedom than in the lenticular cataract; but in other respects he ‘ proceeds in the manner above described. If any portion of the lens ‘ remain as a small nucleus or scale in the centre of the capsule, his ‘ efforts will be exclusively directed to detach this portion, by which ‘ he will fulfil the intention of the operation, that of effecting a perma- ‘ nent aperture in the centre of the capsule. But although the lens ‘ be completely absorbed, and only a capsule of a dense reticulated ‘ texture be opposed to the needle he will still attempt to make a ‘ breach in its centre, for if it yields, at its circumference, the pupil ‘ will be more or less covered with it, and the operation will be im- ‘ perfect, because this thickened capsule is never absorbed, and the ‘ pendulous flap is incapable of presenting a sufficient resistence to the ‘ needle to admit of its being removed by a second operation. It ‘ sometimes happens that the texture of a capsule, on which the first ‘ or second operation has made no impression, will break up under the ‘ repeated touches of the instrument in a subsequent operation.—

'Having fulfilled his principal intention of securing an aperture in the 'centre, if the capsule yields readily to the instrument, the surgeon 'during the same operation may lacerate its circumference, to render 'the pupil clear in its utmost degree of dilatation, always remembering that this liberty ought to be taken only in cases that are capsular. 'p. 132. ——

'In the adult, if the texture of the lens is nearly uniform and permeable, the cure is completed in a space of from three to five months; 'but if the texture is firmer and the nucleus large, the cure cannot be 'accomplished in less than seven months. p. 173.

That a new operation* has been invented, is evident, and that like all novelties it will be made a hobby, is very probable. The Editor of Mr. Saunders' work tells us that Mr. S. preferred extraction when the lens was unusually hard; and insinuates that he would not ultimately have conceded so much. This is doing injustice to the author. His operation will rank as another method of performing that of Hey and Scarpa, who depended chiefly on solution and absorption of the lens. When the capsule is opake the anterior operation may be preferable, but Hey and Scarpa, it will be recollected, managed this case by the posterior operation.

In the posterior operation the needle penetrates through the coats of the eye and vitreous humour. It is feared that depression is performed at the "expense of the retina and "vitreous humour." But considering the almost universal adoption of the method of couching, and the number of bunglers who must of course have performed it, we think the cases of bad success have not been numerous. We once saw, during this operation, the needle of the operator pushed to the opposite side of the eye, and no bad effects ensue; on the contrary the patient recovered his sight. The case was not very favourable in other respects, and we cannot but think, that if ill success were ever to be expected, it should have followed in this case. For such reasons, the danger of the posterior operation appears to us overrated.

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* According to Mr. Wishart (see No. XII. of the Eclectic Repertory), Conradi practised this operation as early as 1797, and we have lately conversed with an intelligent person who saw it performed in Hamburgh in 1804 or 5. It is singular that it was not practised in England until 1807, which is the date of Mr. Saunders' first attempt.—See page 165.

It is not to be argued, that Mr. Saunders has succeeded in fifty two cases out of sixty of congenital cataract. Let his operation become general, and it will be better tested. An inventor of a new instrument or operation, though he has only ordinary skill, is often successful merely through enthusiasm and assiduity. What might not then have been expected from Mr. Saunders, whose eminence was attained only through merit, and who perfected himself in the old methods before he attempted the new.— All of these he performed with success, and so may any skilful and steady surgeon, who has acquired the happy faculty of doing things exactly as they ought to be done.

To examine this subject fairly, we shall compare the dangers of the posterior and anterior operations. We take those of the former as stated by its adversary Dr. Farre; disorganisation of the vitreous humour, and loss of power in the retina. As to the former, it will be recollected that Mr. Hey operated 6, 7, and 12 times in one eye, each time deranging the vitreous humour, particularly when the capsule was torn from the iris, which required several turnings of the needle; and yet no more than ordinary inflammation followed, and the patient recovered. It will also be recollected, that every successful case of depression must have disorganized nearly one third of the vitreous humour, in making a passage for the lens. Moreover, it will be recollected, that the lens sometimes rises with the needle, and that depression is performed several times during the same operation (we have seen it done 4 or 5 times), and yet the case succeeds. These are facts which, independently of reasoning, refute the fear of disorganising the vitreous humour.

As to the retina being injured by couching, it is pierced in but one point, not concerned in vision, and will recover by adhesion. The retina does not possess ordinary sensibility, and therefore no addition to the adhesive inflammation is to be expected from pain.

General inflammation of the eye, and consequent inflammatory constitutional symptoms, have as yet been laid to the account of the posterior operation only; and we must admit that they may be more readily excited in this, than in the anterior operation. They have, however, certainly been overrated; and time and experience may shew that the anterior operation is not secure from them.

One danger of the anterior operation is inflammation of the cornea. This we are aware is not very great; if however it should occur, and opacity be the consequence, the eye is irretrievably lost. This is one great difficulty in extraction; and although in Mr. Saunders' operation the wound is trifling, and this difficulty of less force; still we cannot but think it quite as formidable, as derangement of the vitreous humour and loss of the retina.

The iris causes the great difference. In the posterior operation, the needle and iris need not come in contact.—But if the aqueous humour escape before the anterior operation is completed, the needle must touch the iris; and as Mr. S's instrument has sharp edges, there are few beside its inventor who could withdraw it safely. If its point or edge did not touch the iris, they might scratch the cornea now become flaccid, and lay the foundation of an opacity.—Mr. Hey remarks, "one principal thing to be kept in view "by the operator, is to do no harm."

But, we shall be told, Mr. Saunders experienced none of these sad consequences. We answer with our former remark, an expert surgeon has little to fear from any reasonable method of operating. Objections founded on difficulties in the operation have no force with him. But the test of an operation is its being applicable generally, not requiring the extra assiduity of an inventor, nor any peculiar sleight.

There is one circumstance which gives great advantage to the posterior operation. The cataract may be both couched and broken down. The advantage of two operations is combined; if it remain depressed, sight is at once restored, if it rise, it will gradually be dissolved and absorbed. Some are afraid, that the dissolving powers of the vitreous humour are not sufficient for this purpose. We can answer that they are. In a case operated upon two months since, the cataract was disorganized and depressed; it rose again and nearly obscured the retina, but is now scarcely larger than a pin's head, and the pupil nearly unobstructed.

Let Mr. Saunders' operation be properly applied, and it will be an improvement as well as a novelty. When the crystalline humour has been absorbed, and the capsule, also opake, has collapsed, as Mr. Saunders has described it in children; then the anterior operation will afford the best chance for dividing the capsule. The pupil being dilated by means of the extract of belladonna, this nice section may be regulated by the eye of the operator. As we have assigned the anterior operation to this case, so we would recommend extraction in old, very firm cataracts, and consider the posterior operation as the general one, calculated for all other cases.

The posterior operation, it must be remembered, is twofold. The cataract may be depressed to the lower part of the eye; or it may be broken in pieces in its place, and the aqueous humour admitted to it. The former of these is very mechanical; the latter is scientific, depending for success on the two processes of solution and absorption.—The former is calculated for hard cataracts, when extraction may not be thought adviseable. The latter is calculated for all cases in which the lens can be readily absorbed, and in which the capsule, if opake, is not flabby from having lost the support of the lens. And the two may be united as in the case alluded to, in which the needle penetrated to the aqueous humour; and the lens, being depressed, underwent a very ready absorption in the vitreous humour.

The only novelty in this operation, is passing the needle through the cornea instead of the sclerotica. Mr. Hey operated by breaking down the lens, he practised successive operations, he destroyed the capsule, he admitted the aqueous humour; but these he did behind the iris. Mr. Saunders has done the same, he has done them as effectually, and he has done them before the iris.

We consider the use of the extract of belladonna, as introduced into Britain by Mr. Saunders, or that of the extract of hyoscyamus, as recommended by Mr. Wishart, to be real improvements. The effect of either of these is dilatation of the pupil, even to a degree so great, that the iris becomes a mere ring. The extracts diluted, are to be smeared on the eye-brow and lid, or on the eye itself, and in the course of an hour the dilatation is effected. This continues sometimes for six hours, when it gradually goes off, and the pupil returns to its usual size.

The application of these extracts will improve our practice in several particulars. Small specks are often found on the cornea directly before the pupil. The use of belladonna or hyoscyamus will effect a dilatation of the pupil, so that will become larger than the opake speck, and the light find it a passage to the retina. They should not be applied oftener than once a day, lest they lose their effect on the eye, and particularly lest they destroy the power of the retina. Perhaps however, the danger of this is more theoretical than real; at page 210, is a case in which belladonna was applied "every morning," without any notice of bad effects; and Mr. Wishart used the hyoscyamus for "more than a twelve-month" with perfect safety.

Adhesion of the iris to the lens, may be discovered by these medicines; a point important to be known before operating for either extraction or depression. Also if an opacity be confined to the centre of the lens, which sometimes happens, the iris may be dilated beyond the opacity, and vision retained until the cataract is completed.

But we expect that the most important result of these new applications, will be a better elucidation of the nature of cataract. Two or three varieties have been known for some time, and Mr. Saunders' book presents us with new appearances, discovered after dilatation of the pupil. Further discoveries may perhaps inform us, what cases are best adapted to the several operations we already possess; or they may even suggest an additional operation, to some one who can find between the eye-lids, a spot not already devoted to the needle or the knife.

IV.

Hints for the Treatment of the principal Diseases of Infancy and Childhood; adapted to the Use of parents, By **James Hamilton**, *M. D. Professor of Midwifery in the University of Edinburgh. Edinburgh*, 1809.

Of the Management and Diseases of Children. Principles of Midwiferey, Book IV. By **John Burns**, *surgeon.*

From the London Medical Review.

We promised that some notice should be taken of Mr. Burns' remarks on the Discases of Children, in connexion with the Hints by Dr. James Hamilton, Jun. and we shall now endeavour to make our readers acquainted with some of the most interesting parts of each production.

Hints concerning the diseases of infants and children proceeding from the Edinburgh professor of midwifery, might be expected to awaken more than common curiosity and interest in those who had often heard of his vast opportunities for observation, of the singularity and boldness of his practice, and of the brisk vivacity and confidence with which he urged all his peculiar opinions from the professorial chair. We have been gratified by the perusal of them, and although on some points we felt inclined to differ from him, the main fault that we find in the book is its brevity.

Cow Pox. Of this affection, which ought to be ranked among preventives rather than diseases, Mr. Burns gives a better description than is to be found in any other author. In conducting the inoculation, one of the subjects of the greatest importance is to ascertain whether or no the local influence has produced the proper constitutional effect; and it is extraordinary that Mr. Burns makes no mention of the practice employed for this purpose by his countryman Mr. Bryce of Edinburgh. By Dr. Hamilton it is thus noticed and strongly praised.

'Happily for mankind a true test has been found out, not by chance as the original discovery was made, but by rational induction from analogy. Mr. Bryce, surgeon here, recollecting that in the inoculation for small pox, experiments had been instituted by which it had been ascertained, that punctures made every day till the fever induced by the first operation began, advanced so quickly in their progress from that period, as to be all in the same state of maturity within twenty-four hours from the occurrence of the fever, concluded that the same must happen in cow pox whenever the constitutional affection takes place. This theory he put to the test of experience, and found it completely confirmed. The result of his varied and extensive operations on the subject has been, that when the second inoculation is performed at the end of the fifth and beginning of the sixth day, provided the first advance in the regular manner, the progress of both goes on equally from the seventh or eighth, the one being the miniature representation of the other if the constitutional affection have actually occurred; but if it have not, that the second puncture advances as the first should do, in which case a third is to be made at the end of the fifth day, or between thirty-six and forty-eight hours before the expected appearance of the areola of the first puncture, and so on till the two inoculations of the different periods correspond regularly in progress and decline. The value of this discovery can only be appreciated by those who can judge of the subject, but may be beneficial to all.

'That it has not been adopted in the city in which it was made is a most singular fact. On so interesting a subject no human precaution can be superfluous, and I do not scruple to declare that any person who should hesitate to adopt Mr. Bryce's test *on being required to do so* would deserve the most severe reprobation.'

Diarrhœa. Of this disease, or to speak more accurately, of this class of diseases, Dr. Hamilton has given according to the plan of his work, a very brief account of the symptoms, and of the remedies which he is accustomed to employ. Mr. Burns has treated the subject far more elaborately.

In diarrhœa the appearance of the stool is various. Sometimes they are thinner than natural, from the admixture of a larger than common quantity of fluid poured out by the exhalents of the intestines; sometimes they are slimy, from a superabundant formation of the natural mucus of the bowels; sometimes they are green when first discharged; sometimes they are evacuated of yellow colour, but become green on exposure to the air; and sometimes they are of a dark brown colour and very fœtid. Of some of these morbid appearances the explanation is not very easy. The green colour of stools has been attributed either to a superabundance of bile, or to the presence of an acid in the intestinal canal.

" When in children," says Mr. Burns, " the digestive " faculty is somewhat impaired, fermentation goes on more " strongly, and the fæces contain more acid than usual, " which although the bile be not increased in quantity may " give them a green colour." " All acids," he adds in a note, " decompose bile and in general produce a green " precipitate." It seems to us that there is no very complete evidence that acid is ever the cause of the green colour of the stools. It is true Thenard found that muriatic acid mixed with bile produced a green precipitate, but it does not necessarily follow that other acids, particularly those produced by fermentation in the stomach and bowels, will produce the same effects. The acetic acid poured on healty fæces causes no change in their colour. Some fault either in the quantity or quality of the bile is most probably the universal cause of the green colour of stools. The remedies for these complaints are various.

' That form of diarrhœa which is attended by green stools, readily ' yields,' says Dr. Hamilton, ' to a brisk laxative, as a dose of calomel, ' or of rhubarb and magnesia, or of syrup of senna with a small propor- ' tion of rhubarb followed by small doses of magnesia and prepared chalk. ' The nurse's diet should be regulated, and the infant should be allow- ' ed no other food beside the milk than arrow root.'

Many of our eminent practitioners in England often find this form of diarrhœa more obstinate than Dr. Hamilton seems to have done. Mr. Burns advises an ipecacuanha vomit, and afterwards small doses of calomel, or some gentle laxative, night and morning. Dr. Clarke, of Dublin, gives half a grain of calomel every or every other night, until the stools become natural, and finds that he generally succeeds before he has given more than four or five grains Our experience corresponds with that of Dr. Clarke. When the use of laxative medicines seems rather to be reducing the strength than correcting the stools, Mr. Burns restrains the discharge by opiate clysters.

Dr. Darwin says that griping and green stools arise from a torpor of the digestive organs, and that the most certain means of exciting their action and removing the disease, is the application of a small blister about the size of a crown piece to the pit of the stomach. We have often used this remedy. Sometimes it cured where many internal medicines had failed; occasionally it has given only temporary relief; but it has rarely been entirely inefficient. Blistering is one of the most potent means we possess of curing diarrhœa in almost all its forms.

A combination of rhubarb, soda, and ipecacuanha, in such doses as that the ipecacuanha shall not vomit, and the rhubarb shall purge briskly, is one of the most generally useful remedies in this disease. When we do not wish to purge, small doses of rhubarb, soda, and aromatic powder, or of rhubarb, chalk, and ipecacuanha, are eminently useful. When the irritability of the intestines seems to be great, the fluid stools being thrown out with force and quickness, and the strength appears to be sinking rapidly, if we wish speedily to stop the discharge, the opiate injection is of all others the most speedily and completely efficacious. In these cases the application of a blister is of very great use. The external application of opium by friction or plaister, is likewise often very useful. In cases where we are desirous of allaying the irritation of the canal without stopping the discharge, hyoscyamus might perhaps be advantageously employed.

Scarlatina. Is it an unjustifiable degree of self-sufficiency to say that we treat this disease much better now than formerly? We think it is not: and yet observation, although the best, is so imperfect a source of knowledge; so various and so opposite are the opinions about the effects of the same remedies on the same disease; and so often do the best observers discover reasons to alter opinions which formerly they thought unquestionable, that although we maintain the modern mode of treating the scarlet fever to be preferable to that of our predecessors, we do so with hesitation and uncertainty. For this disease the remedies chiefly deserving consideration are emetics, purgatives, cold affusion and sponging, bark, wine, blisters, and gargles. About the value of some of these our eminent writers are far from being settled in their opinions.

Dr. Willan says, " Purgatives have nearly the same debilitating effect as bloodletting. They are indeed very seldom necessary ; for although a few patients may on the first day be affected with bilious vomiting and diarrhœa, the state of the bowels is more uniform than in other febrile complaints." Dr. Currie, of Liverpool, called bleeding and purging *a deadly practice.* Since the publication of Dr. Hamilton's treatise on purgative medicines, many of the old and almost all the young practitioners have resorted to purging as one of the most effectual means of assailing the disease, and if we may judge by our own experience have seldom had cause to repent. It is almost needless to say that Dr. J. Hamilton and Mr. Burns are strenuous advocates for that practice. " Laxatives," says Mr. Burns, " are still more useful (than emetics). In some epidemics the bowels are moved with greater difficulty than in others, and in those cases the laxative must be stronger. Even when there is a tendency to diarrhœa, if the stools be fœtid and unnatural in their appearance purgatives are equally necessary as in the opposite state." A person uninformed in the history of medical opinions, would with difficulty believe that two sensible and well informed men, living at the same time and in the same island, could talk in so different a strain about the same thing ; as for ourselves we have long left off wondering at such things as these. " On the steady use of purgatives," says Dr. J. Hamilton, " the prevention of glandular diseases and of dropsical affections chiefly depends." In the Philosophical Transactions for the year 1746—7, Dr. Wall says, " Nothing so immediately cures a sore throat ' of the malignant sort as bark does, and I was soon con- ' vinced by a multitude of instances that for the same rea-

'son it is truly a specific in the case before us." "Although 'the bark," says Dr. Willan, "may be in many cases very 'useful, it often disappoints our expectations, and where 'the symptoms are violent *seems wholly inefficacious."* 'Dr. Withering says that "the inflammation (of the 'throat) is augmented by large and frequent doses of bark; 'it is astonishing to see how much the tumefaction is increased, and how rapidly the whole lining of the fauces 'is converted into a stinking slough. It is true nevertheless 'that many patients recover who take the bark. The fact 'seems to be that in mild cases an improper mode of treatment is not highly detrimental; it is only in the more 'dangerous state of the disease that we can do much harm. 'I am ready to confess that in two or three of the first bad 'cases I saw, misled by so many marks of putrescency, I 'gave the bark, but the consequences were not such as 'would justify a continuance of it."

With regard to wine, we believe that in scarlet fever practitioners now use it much less frequently, and in much smaller quantity than formerly. Many of our most judicious physicians condemn it altogether. What then shall we think of the practice of Dr. Binns, who attended the children attacked by scarlatina in a large school at Ackworth in Yorkshire, of which he was superintendent.

'It is impossible to specify with certainty,' says he, 'the quantity of 'wine taken by individual patients, but from the general consumption 'when a number of bad cases occurred together, it appeared that '*children about twelve years of age must have taken each a bottle of red 'port and a bottle of raisin wine in twenty-four hours, for several suc-'cessive days.* I have employed this practice for many years *with 'as much success as any of my brethren.* Although the state of the 'pulse and other symptoms were in many cases such that a small pro-'portion of wine and bark were sufficient, yet in other instances the 'debility was such as to require even the addition *of brandy to the red 'port. Sometimes brandy unmixed* was given with comfort and advan-'tage to the patient.'

Dr. Peart, of Gainsborough, (1802) gives about *five grains of ammonia every two, three, or four hours.* "In 'the most alarming cases," he says, "*a scorching fever 'and raging delirium* rendered the patient's situation hor-

'ribly alarming, yet in all variations of the disease the vol-
'atile alkali was my specific, which I administered to two
'or three hundred patients successively and *successfully.*"

We know no remedy which in scarlatina we use with so much confidence and satisfaction as the cold affusion. Few modes of alleviating disease act so quickly and so distinctly, or in a way which makes the connection between the remedy and the relief so plain and unquestionable as this. If we consider the phenomena of a fever fit we shall see that the means which nature takes to relieve the disease are only imitated, improved on, and rendered more effectual in the practice of affusion; and this perhaps may recommend the practice to some. A paroxysm of fever begins with coldness, the coldness is succeeded by heat, and the heat by perspiration; as soon as the perspiration breaks out, it moistens the skin, cools the surface of the body, and alleviates all those distressing feelings which accompany the hot stage of a fever. Now the practice of affusion is only an imitation of this spontaneous and natural mode of relief. Perspiration is the natural affusion; affusion is the artificial perspiration*; only in this as in some other cases art has improved on nature. The only fault which we can find in this practice, is, that it is not applicable to a larger proportion of the cases of the disease; for when scarlatina is prevalent there occurs a number of cases, in which the preternatural heat of the surface is not sufficiently great or steady to warrant or even to require the employment of the affusion. In those cases which do indicate its use we have long been accustomed to rely upon it as the chief remedy, and we have never had the smallest reason to regret our reliance. In some the disease has been cut short by one or two affusions: in many it has been converted into a trifling ailment, when, if we might judge from the commencing symptoms, a severe disease would have been formed; in all it has alleviated the symptoms more rapidly and more unequivocally than any other remedy which we ever saw employed, and in none has it been attended by the slightest appearance of harm; not enough even to excite the hostile eloquence of the neighbouring gossips. Nevertheless, this harmless and potent remedy is at this day neglected in the metropolis; and men of sense and knowledge are to be found who express their doubts about its utility. It is an old occasion of astonishment that men often differ *in toto* about the plainest facts; facts which to ascertain, one would suppose require us only to open our eyes. That at this day one man of sense should say that purgatives in scarlatina are almost as debilitating as bleeding, and are unnecessary, and another, that they are indispensable remedies; that some should believe washing the hot parched skin of a patient to be useful, and others to be hurtful: that——But it is vain to go on. The whole history of medicine furnishes materials for this astonishment among those who can still be made to wonder. The fact is that the greatest number of men act without sufficient motive, and speak without sufficient thought; and these faults rise very high in the learned classes. When we look at a statement, we know not how much knowledge lies behind it; but the older we grow, and the greater opportunities we have of judging how much we may generally rely on the opinion of men, the less do we rely on them. We find that few of these opinions are formed with care and cautiousness. In this way, and in this only, can we explain the following opinion delivered by Dr. J. Hamilton.

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* The editors of the New-York Medical Magazine hold themselves responsible only for the *general* value of their selections, and not for the correctness of the *particular* opinions they may contain.

> 'When the throat is affected at the beginning, an emetic, although 'it noes not cut short the progress, as has sometimes been alleged, 'certainly mitigates the violence of the disease. The same may 'be said of the *affusion of cold water* over the whole surface during the 'hot stage *which by some practitioners has been extolled beyond measure.* '*Its apparent efficacy may be explained on the principle that in much* '*more than the majority of cases, the disease is mild and would terminate* '*favourably, whatever practice were adopted.*' (Page 375.)

Of the same remedy, the cold affusion, Mr. Burns speaks thus:

> 'From careful observation, I can with great confidence recommend 'it. It is of consequence to use this early, and whenever the patient 'feels steadily hot, the shiverings have gone off, and the skin feels ve-

'ry warm to the hand of another person, it is time to put the patient 'into an empty tub, and dash over him a large pail full of cold water. 'By this I have known the disease arrested at once, the eruption nev- 'er becoming vivid, and the strength and appetite in a few hours re- 'turning, even where it is not arrested it is pleasant to observe the 'change it produces. The patient from being dull, languid, and list- 'less, feels brisk and disposed to talk or laugh; the skin becomes for a 'time colder, and refreshing sleep is frequently procured.'

The remedies that still remain to be noticed are blisters, emetics, acids, and gargles. Blisters are applications of very doubtful utility. Dr. Withering and Mr. Burns condemn them. Dr. J. Hamilton says nothing about them. Mr. Burns is uncertain whether they ever do good, and says they often greatly increase the irritation of the patient. Medical men are almost unanimous about the utility of emetics at the beginning of scarlatina. Dr. Willan, Dr. Stanger, and others speak highly of muriatic acid, taken daily in the quantity of a drachm largely diluted. Stimulating gargles, such as diluted alcohol and infusions of cayenne pepper, are coming into fashion; and we are persuaded are often employed with too little attention to the nature and progress of inflammation, and to the state of the parts to which they are applied. When these parts are gangrenous, they may do good. In sloughing and mortification of other parts of the body, the most effectual application is a hot fomentation of largely diluted nitric acid. If the application is useful in mortification of other parts, why not in mortification of the throat? We have seen it of unquestionable service in this latter case.

Croup. We stop at this article principally to notice a mode of treating croup, which originated in America; but which has been adopted by Dr. J. Hamilton, and is we believe gaining friends in this island. The practice is thus described by Dr. H.

'Immediately upon the attack, the child must be put into a tub of 'water heated to the ninety-sixth degree of Fahrenheit's thermometer, '(that is to the degree which the hand immersed in it can easily bear) 'or must be wrapped up in a blanket wrung out of hot water. Whe- 'ther the bath or the fomentation be employed, it ought to be contin- 'ued for at least ten minutes, and then the child should be rubbed dry, 'carefully wrapped up in warm flannel and put to bed.

'A dose of calomel is now to be given and repeated every hour till 'the breathing be evidently relieved, when it is to be gradually dis'continued, allowing at first two, then three, and finally four or five 'hours to intervene between each dose, according to the state of symp'toms. This medicine commonly occasions both vomiting and purging; 'and in true croup the first alleviation of symptoms generally follows 'the discharge of a great quantity of dark green coloured matter, like 'boiled spinage by stool; but if the attack have been that of spurious 'croup, the breathlessness ceases after vomiting has occurred.

'The dose of calomel is to be regulated principally by the age of the 'patient. During the first year it should be from one to two grains: 'during the second, two grains and a half; during the third and fourth 'years, from three to four grains; and during the fifth and sixth, from 'four to five grains.

'When the disease has begun to yield to this treatment, nourishment 'suited to the habits and circumstances of the child is to be exhibited 'in small quantities, and often repeated. In some cases considerable 'weakness remains after the crouping has ceased, in consequence part'ly of the violence of the symptoms, and partly of the operation of 'the calomel. Under such circumstances, cordials, particularly weak 'white wine whey, and a blister to the breast become necessary. But 'if proper attention have been paid to the precaution of lessening the 'number of doses of calomel, whenever the disease is in the least al'leviated, the ordinary health of the child will be restored within a 'very short time after the symptoms of croup have disappeared.

'For the cure of this formidable disease, practitioners formerly 'trusted chiefly to bleeding, with the use of vomits and blisters, as 'auxiliaries; but the result of the practice was in the more favourable 'cases a very considerable shock to the constitution, and in the ma'jority of instances, the death of the child. These circumstances 'rendered it fair to make a trial of the practice of giving calomel, first 'suggested by some American physicians. Accordingly an old pupil 'recommended it to me about eight or nine years ago, but I was at 'first unwilling to try it, as he said it produced in his practice no other 'sensible effect but that of curing the disease. After another year's 'experience, his report being still favourable, I agreed to make a cau'tious trial of it, and having now employed it for seven years, and 'having most carefully attended to its effects, I consider myself fully 'warranted in giving the above directions. I have had the happiness 'of seeing the disease yield where its violence seemed to threaten al'most immediate death; and among the patients on whom it has been 'successfully tried, one of five months old had thirty-two grains of the 'calomel within twenty-four hours, and another of the same age, eigh'ty-four grains within seventy-two hours. A girl seven years of age 'had within little more than sixty hours a hundred and thirty-three 'grains, and two days after, appeared as if she had never had a complaint. In every case where it was employed previous to the occurrence of lividness of the lips and other mortal symptoms, amounting 'now to above forty, it has completely succeeded both in curing the 'disease and in preventing any shock to the child's constitution. In 'three instances, where the case seemed desperate, it was thought 'right to try its effects rather than leave the patient to his fate. It 'neither aggravated nor mitigated the symptoms.

'It is necessary to add, that I have now seen two cases where, although all the symptoms of the croup were removed by the use of 'calomel, the patient sunk from the weakness which followed. One 'was nine months, the other four years old. In another case to which 'I was called, where the debility was very great after the use of the 'calomel, the infant was saved by means of a blister, and a very liberal 'use of opiates and wine diluted with milk. These cases enforce the 'necessity of watching the progress of the disease, so as to stop the 'calomel whenever the symptoms begin to yield.'

Of the mode of treatment above detailed, Mr. Burns speaks favourably, although not so strongly as Dr. J. Hamilton.

'Calomel,' says he, " appears to be a very powerful remedy in this 'disease, and if given early will most frequently save the child. I do 'not however recommend it to the exclusion of other remedies with 'which it is not incompatible. Early bleeding followed by an emetic 'and calomel afford the greatest hope of removing the disease. But I 'think it my duty to state that in some cases no alleviation was obtained by any remedy but the calomel; and in others, it was trusted 'to alone, and with success. I have a high opinion, says he, in another place, of the efficacy of calomel; but I cannot speak so strongly 'as Dr. Hamilton, for even when it was early and exclusively employed, and brought away green stools, I have known it fail.'

Ever solicitous to convey information to our readers, we should have pleasure in extending further the transcripts from these publications: but this is unnecessary; for we feel confident, that the extracts already inserted together with the remarks which we have offered, will induce every inquiring practitioner to peruse both.

V.

Memoirs of the Connecticut Academy of Arts and Sciences, Vol. 1. *Part.* 2. *New-Haven, Steele & Co.* 1811. *No.* XVIII. *A dissertation on Chronic debility of the Stomach, by* BENJAMIN WOLSEY DWIGHT.

When a physician is afflicted with any of the various ills which "flesh is heir to," the public have a good right to expect a better knowledge of the symptoms of his disease, or some improvement in the method of treating it.—Accordingly we find some of the best histories of gout in the writings of those medical men, who have been martyrs to it. We owe almost all our knowledge of Asthma to Sir John Floyer and Dr. Bree, both of whom were afflicted with it, and the latter of whom has effected his own cure. Dr. Monro, who suffered a rupture of the Tendo Achillis, devised the most effectual apparatus for its treatment, which was afterwards used by Mr. John Hunter, and the present Dr. Curry of Guy's Hospital, in their own cases. Dr. Rush had an hereditary predisposition to Phthisis, but kept it at bay by the use of means which his view of the disease suggested. Dr. Jones of this city has published one of the best accounts of the symptoms of Tic Doloureux, the inveteracy of which he has farther established by his own sufferings. And we have here another contribution to our art, from a personal experience of eleven years. It is somewhat singular that no physician has given a similar account of scrophula; whether this has arisen from an accidental exemption, or whether a constant personal vigilance may not have routed the disease, are very interesting questions. The sufferings of a scientific physician from this disease, would yield a more important harvest of information, than has ever yet been reaped.

Dr. Dwight has opened his dissertation with a very brief account of the process of digestion, such as is now generally received.

'—— the digestive process so far as it takes place in the stomach, 'is accomplished chiefly by the gastric liquor. Some aid is, however, 'rendered by the muscular action, and heat of the stomach; and the 'process is completed in the duodenum, by means of the solvent and 'saponaceous powers of the pancreatic liquor, and bile. p. 221.

Considerable mystery still hangs over the process of digestion. The solution of food in the stomach is indeed fully proved, but the source and nature of the solvents remain uncertain. Some consider the saliva as sufficient for the purpose, and on this theory ground the explanation of the dyspepsia which follows the loss of this fluid, by tobacco-chewing, salivation, &c. Others regard it as a peculiar secretion furnished by the internal coat of the stomach generally; while Mr. Home attributes it to a part only of this membrane, or rather to a certain glandular apparatus, near the cardiac orifice, which we have seen him demonstrate in some animals, and which he fancies he has discovered in man. And lastly, the bile has been supposed to have an effect within the stomach as well as beyond it.*—Between these theories, it is not our business to decide. The correctness of either, or of all of them, can alter in no degree the practice of our author. We have noticed them only to invite attention to the subject, and a further investigation of the important process of digestion.

Of the antiputrescent qualities of the gastric liquor, a remarkable example is given at p. 251.

'Some years ago, Æneas Monson, M. D. late President of the Medi'cal Society of Connecticut, obtained about a quart of gastric liquor, 'from the stomach of an ox. The animal, previous to its being killed,

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* This opinion is not plausible at first sight; we quote however the following remarks concerning it from Dr. Rees' book on disorders of the stomach *passim.* "Bile in the stomach is a very powerful stimulus to hunger," "gluttonous men and rapacious animals have been found to have the ductus choledochus open into the stomach." "Duverney has demonstrated the biliary duct opening into the stomach of the ostrich." "Vesalius (says Boerhaave) opened the stomach of a most voracious robber, and found the biliary duct inserted into the stomach; and Galen assures us, that people who are subject to have the bile ascend into the stomach, are always extremely voracious." These facts though far from conclusive are very remarkable; and hey entitle the theory which is built upon them, to be tested by direct experiments.

'had been fasting an unusual length of time. Notwithstanding this 'advantage, the butcher who collected it, did not obtain it so pure and 'free from admixture with other substances, as was expected. In 'consequence of this fact it was put into a junk bottle, tightly corked, 'and placed by a servant in the cellar, on the top of the wall, by the 'window, with an intention of letting it stand a few days, to settle.— 'When it was called for, the servant was unable to find it. It re'mained in this situation between one and two years, before it was 'discovered. On opening it, it was found to be perfectly sweet, and 'to smell very exactly like the breath of a healthy cow. This occur'red during the hottest weather of the summer. The liquor was care'fully poured off into another bottle, which was well corked, and set 'aside in a proper place, where it remained a year longer. It was 'then opened, aud the liquor had apparently undergone no changes, 'but was perfectly sweet. p. 251.'

Dr. Dwight considers the permanent or chronic debility which he describes, as seated chiefly in the nerves, muscular fibres, and vessels of the stomach. This is comprehensive at least, and if we mistake not, these respective *sub-diseases* have been called Hypochondriasis (in which the liver also is affected), Dyspepsia, and Pyrosis. What reason our author has had for changing these names we cannot imagine; much less can we see any propriety in confounding the three diseases under one name. They are indeed often combined but they are in many respects different, both in symptoms, and in the means of relief or cure.

We will not, however, cavil at a name. The volume before us exhibits the most complete account of the "often infirmities" that we have seen; and although it contains little that is new, it contains nearly all that is valuable.— The essay is calculated to be popular, and if we did not know the perverseness of human appetite, we should hope that the many good remarks upon diet would be made practical. Man is the only gluttonous animal, the only one voracious from habit. Several birds and some beasts make very large meals, but they do this chiefly to improve an opportunity; they do not return to their prey till again hungry. But men keep up a perpetual appetite, they almost never wait for its proper source, hunger. If with this indulgence exercise were joined, the digestive powers might remain vigorous. But without exercise this unnatural error gives rise to many distressing ailments.—We quote the following remarks concerning one of the most prominent symptoms, acidity in the stomach.

'It appears to be the general opinion of physicians, so far as my information extends, that the acid found in the *Primæ Viæ*, is derived from a fermentation of the alimentary matter. That such an opinion should have universally prevailed, is not to be wondered at. It is not long since the medical world attributed the process of digestion chiefly or solely to this cause. That the acid, which is sometimes found in *healthy stomachs*, is produced in this way, I have no doubt; and that the acid found in debilitated stomachs is, in many instances, owing to the same cause, I also admit; especially where the disease consists of what may be termed a paroxysm, that is, an attack which lasts from one to four days, commencing suddenly, and leaving the stomach free from the evil, by means of a spontaneous diarrhœa, or some other cause. Such paroxysms I have often known. The disorder in this case is brought on usually by eating acid fruits, or beans, or peas, or other vegetables, which are tough and old, or pastry, or by drinking wine or porter in a slight degree sour, or by eating to excess food generally healthful. The acid in this case evidently proceeds from fermentation, and the great quantity of gas or wind extricated, together with other circumstances unnecessary to be mentioned, prove it. But there is an acid state of the stomach differing widely from all this, often continuing many weeks, and months, and sometimes years, without material abatement, and this in spite of all regulations of diet; often lessening the appetite greatly during its continuance, producing obstinate costiveness, and excessive torpor of the stomach and intestines, without ordinarily occasioning wind in those viscera, at least to a greater degree than is usual to those who enjoy sound digestion; producing also headache of many months continuance, or daily periodical headache and universal debility, and sometimes, perhaps usually, connected with an acid state of the saliva. This also admits of aggravations or paroxysms, induced by various causes. The acidity in such cases I suppose to be owing to a *morbid secretion of the gastric liquor*.'

'—— the stomach becomes exceedingly torpid, and requires a very large dose of some powerful emetic to excite vomiting, and when it is induced, nothing is brought up but *an acid mucus*, unless, by violent straining, bile should be forced from the duodenum into the stomach. The acid is often extremely corrosive, so as in some instances, to excoriate the fauces. The vomiting however is of no service. It greatly weakens the stomach for a time, and in twenty-four hours the acid is as abundant as ever p. 242. 243.'

For the cure of chronic debility of the stomach, Dr. Dwight relies chiefly upon exercise, considering it as "the natural state of man." Riding on horseback is of course the best exercise, but as this is not within the means of all, the following are mentioned.

'*In* cool weather, cutting, sawing and splitting wood, will be found 'very useful. For young men at colleges or in merchants' counting-'rooms, playing at ball, foot-ball, quoits, nine-pins, &c. p. 301.'

The exercises enumerated in the first sentence are accessible to all, and although they may appear menial, and are not connected with any amusement, they possess some great advantages. Their effect is most felt in the chest and abdomen, and they may therefore be very properly alternated with walking. These exercises are of course the best substitutes for riding on horseback.

With the following theory of the effects of exercise, we shall finish our quotations.

'*In what way is exercise useful in such cases*, it may be asked? I 'answer by strengthening the whole muscular system, and by improv-'ing all the secretions, but especially the gastric liquor and the bile; 'while it also diverts the mind from a dangerous attention to the 'disease of which it partakes, and frequently furnishes an agreeable 'novelty and variety. That exercise strengthens the muscles, may 'be easily evinced. Every one knows that it increases greatly the 'circulation of the blood, and in this way an additional quantity of nu-'triment is added to the solids; it also sharpens the appetite, and 'renders the digestion more vigorous. Of course a larger quantity of 'nutriment is derived from a given quantity of food. The same truth 'is evident, from facts, obvious to every observer. Thus certain me-'chanical employments, which call into frequent or constant daily ac-'tion, particular muscles, occasion in them considerable enlargement, 'and an increase of strength. The whole muscular system of a labour-'ing man, other things being equal, is vastly stronger, than of a man 'confined to light and easy employments. That exercise improves 'the secretions, any one may be satisfied by attending to its effects 'upon himself. The secretion from the axillary glands it is well 'known, is greatly increased in quantity, and rendered far more odor-'ous, by hard labour, or by any kind of exercise that moves the arm to 'an unusual degree, such as riding on horseback, cutting wood, &c.—'The sweat and ear wax of labouring people, is altered in like manner, 'and likewise, the milk of the female. The bile also is greatly im-'proved in its quality, and often increased in its quantity, by the same 'cause. May we not reasonably infer the same of the gastric liquor? 'p. 296. 297.'

The stomach is supported in a bed of soft parts, and its connexion with the spine is very loose, so that exercise must be severe to be felt by this organ,—to produce in its muscular coat the great strength it does in the external muscles. On this account many are disappointed of a cure: a moderate degree of exercise is thought sufficient, but this failing, they have not resolution to use that which is more violent. When a dyspeptic rides, (if not generally debilitated), he should trot his horse, and when he works, he should work hard, that the abdominal muscles may by their action exercise the stomach. These directions will not of course be popular with the indolent, they are however entirely consonant with reason. The exercise which renders a smith's arm muscular, which swells the gastrocnemii of a porter, or which adds intensity to the odour from the feet or the arm pits, are they not all of the most violent kind and long continued? As severe exercise is not necessary for a healthy stomach, so none other will be useful in dyspepsia. But in a coach-ride or a canter the stomach undergoes a mere gestation: no local excitement of the vessels is induced, nor are the nutrition or secretion of the organ increased.

The new name which Dr. D. has given these complaints must have prevented him from using the white oxide of bismuth. Had the name of pyrosis been recollected, it could not but have brought with it that of bismuth. Dr. Moore's dissertation was published before Dr. D's book, and it has been several times noticed in periodical works, so that every American practitioner must have become familiar with this excellent remedy. Should this essay pass to a second edition, Dr. D. will be inexcusable if this medicine remain unnoticed. Exercise, though useful in every form of chronic debility of the stomach, and most so in dyspepsia and hypochondriasis, ought not to exclude the oxide of bismuth, which seems to be the proper tonic for the stomach: in pyrosis, a speedy and nearly certain remedy will be found in this oxide, and exercise will assist in establishing the cure.

We have not seen any work, in which the influence of the mind in the production and cure of dyspepsia, was set in a proper light; nor does it comport with our plan to enter largely upon the subject at present. We offer the following hints, as our " mite" of contribution towards a better understanding of this matter.

Students are frequently subject to dyspepsia. This is chiefly owing to want of bodily exercise, it is owing in part to *errors* in the exercise of the mind, at least it is so in students of divinity, law, mathematics, &c. The error here is exercising the mind too severely, and exercising the judgment without the imagination The indication of cure is two fold, to exercise the body more, and to alternate exercise of the imagination with that of the judgment.—Study is not to be abandoned altogether; as well might a drunkard suddenly relinquish the use of strong liquor. For the same reason a total change of studies is improper; with the more severe, let some study be alternated in which the imagination may be exercised, such as animal and vegetable physiology, chemistry, and perhaps poetry.

Another class very liable to dyspepsia, hypochondriasis, and indeed to nervous complaints generally, are manufacturers. In these the body and mind both want exercise. Not that the mind is ever idle; but because its vagrant and untutored operations do not contribute to its health, any more than the lazy strollings of a sluggard can add to his strength. Mechanical dexterity is soon acquired, and the mind being no longer occupied by work, is given up to this pernicious listlessness, and to " a dangerous attention to any disease of which it may partake." To provide materials for the mind, we would advise that half an hour be snatched from the meal times, to read books of voyages and travels; they should be so read that only one or two incidents may be retained for reflection when at work. History may follow, to be read in the same manner. If the time during the day be too fully occupied, an hour stolen from sleep, and devoted to these purposes, will repay in health, what it exacts in self denial.

VI.

An Act to incorporate Medical Societies, for the purpose of regulating the practice of Physic and Surgery in this State, passed April 10, 1813.

The institution of state and county medical societies in 1806, has effected a change in the profession far greater than was anticipated. The examinations for a license are full and complete ;—not such indeed as should be required for a degree, being calculated to test the practical knowledge of the candidate, rather than his adroitness in theorizing, or his acquaintance with books. This is as it should be ; for a large proportion of the practitioners of all countries are men of mere practical acquirements, whether they be termed apothecaries, as they are abroad, or physicians as in this state.

But while we acknowledge the wisdom of our State Legislature in thus securing the profession from uneducated intruders, we cannot but remark a strange inconsistency in the new law, which throws down half the barriers which had been erected, and gives a legislative sanction to the quackery of indian doctors, and poison-curing negroes. We allude to the 20th section ;

> ' *And be it further enacted*, That any person who shall practice phy-
> ' sic or surgery, without being regularly licensed, shall forfeit and pay
> ' twenty-five dollars for each offence, of which he may be duly convic-
> ' ted, to be recovered with costs of suit, before any Justice of the Peace
> ' of the county were such penalty shall be incurred, by any person who
> ' will prosecute for the same ; and the Justice, before whom such con-
> ' viction may be had, shall pay the same to the overseers of the poor
> ' of such town where such conviction shall be had, for the use of the
> ' poor thereof, whose duty it shall be to prosecute for the same :
> ' *Provided*, The person so practising without licence, who shall not
> ' receive any fee or reward for the same, shall be exempt from the pe-
> ' nalty of this act : *And provided also*, That nothing in this act con-
> ' tained, shall be construed to extend to debar any person from using

'or applying for the benefit of any sick person, any roots, barks, or 'herbs, the growth or produce of the United States.'

This section is every way defective The paltry sum of twenty five dollars is not worth the trouble of conducting a prosecution. Besides, there are many indirect ways of receiving "fees or reward," which may not be illegal, and which of course secure the receiver from penalty.

But chiefly we would censure the general permission to prescribe drugs which are the growth or produce of the United States. Stramonium and hyoscyamus are among our indigenous narcotics,—valuable remedies in the hands of the skilful, but deadly poisons if unduly administered. There are several emetic and cathartic plants growing in almost every district of our country, and one or two tolerable substitutes for the Peruvian bark. Add to these; the sudorific, carminative, vermifuge, and tonic herbs, which grow on every farm, and we have an indigenous materia medica extensive enough for any bungler. Any one who finds the ingenious arts of counterfeiting and swindling too dangerous, or requiring too great activity of mind, may deal out death with the most perfect relaxation of his faculties, and under the seven-fold shield of the law.

The two following instances will show that we do not tremble at imaginary dangers.

A man in this city had a rheumatic pain in one of his joints (the wrist if we recollect rightly), and applied to a *black doctor* for relief. This savage ordered his patient to bed, and covered him with eight or ten blankets, under which he desired him to keep his head; he then had a large fire made in the room, and directed the doors and windows to be kept shut. In an hour or two (absente doctore), one of the family came to make inquiries of the progress of the cure, but on raising the blankets found the man black in the face, and gasping for breath. Respectable medical advice was immediately sent for, and four *regular* physicians attended; but their endeavours were to no purpose, as the man died the same night.

This example shows to what extent the prohibition to practise without license should reach.—Dr. *Blackee* did not administer "roots, barks, or herbs;" but he prescribed his blankets as a physician. In that character he gained the confidence of the sick man. Had he, without such a disguise, ordered his patient to smother himself, the continuance of the rheumatism would doubtless have been preferred as the lesser evil. But the confidence of an uneducated person in a physician is so tinctured with superstition, that the hazard of an experiment is made of no account.—The most severe penalties should be inflicted on all who prescribe without license in the character of physicians; and this whether their prescription be roots or herbs, blankets or bathing, diet or regimen. If such a law could not reach meddling old women, and officious friends, it would at least check the ravages of negro doctors and persons "skilled in the indian physic."

But to our second case.—A negro girl had amenorrhea, and was prescribed for by a regular physician, but without such immediate relief as was expected. It soon became evident that her imagination was as obstinately affected as her bodily health; and she hinted that she thought herself poisoned.—We presume our readers are aware that this poisoning is a disease purely mental, that none but a black is subject to it, and that none but a black can either inflict or cure it. We suspect that it is not unlike the "obi" of the West India negroes.

In the confidence that she was poisoned, the girls parents introduced a negro doctor, in place of the physician employed by her master. This sable conjuror, it was expected, would have commenced the disenchantment with some mysterious rites, or the utterance of a powerful spell. He was however above such artifice. He made a very open display of his motives by demanding the truly professional fee of five dollars. This was ordered to be in hard money, and as it was with mystical accuracy given first to the poor girl, from whose hands he received it, the suspicions of the father were lost in his anxiety and superstition. The money received, the man bruised a few roots, directed a decoction of them to be made, and administered that evening. On the next morning the girl was better, she had vomited violently during the night. It seemed now a question, whether ignorant temerity might not sometimes be preferable to scientific prudence; and had this impostor been discerning enough to have been content with his *good luck*, he might have triumphantly decided the question. He chose however to follow up his victory with so much impetuosity, that on the fourth day of his attendance his patient was a corpse.

The first of these cases is well known to most of the profession in this city, and has been attested in one of the courts of justice. The evidence for the second is the personal knowledge of one of the editors.

We do not cite the above cases on account of their singularity, we believe that these impositions are in constant practice. The public are not on their guard against these swindlers of health, and superstition is so deeply rooted that we fear they never will be;—the cup must be *forced* from their lips. Legislators are willing enough to lay restraints on popular feelings, but they foster popular superstitions of the most pernicious tendency. The truth is, these superstitions reach even to rulers and lawgivers, and all attempts on the part of our profession to reason against them, are accounted interested projects. But as their stations and pursuits qualify them for detecting political quackery, so our studies make us the best judges of medical imposture.

It is fancied that new remedies may be discovered by leaving this vegetable practice open to all. Admitting that there may, how many lives will the experiment cost? Possibly as many as will be saved by the discovery in store. But it is ridiculous to expect any contribution of importance from the researches of such impostors. If they stumble on some new emetic or cathartic, they make it a mysterious secret; regular practitioners have no opportunity of testing it, and medical science is in no degree advanced.—Our country practitioners are to be looked to as the searchers after new articles for our indigenous materia medica; to them we already owe the discovery of most of the medicinal "roots, barks, and herbs which are the growth or produce of the United States."

But new remedies are less wanted than a regular and fresh supply of those already in use. The digitalis of the shops, is (we are informed) imported from Germany and England; of course the present supply cannot be much better than saw-dust. Opium is again advancing to an extravagant price, in consequence of mercantile speculations.—Were our country physicians encouraged to cultivate these and other vegetable medicines which bear our climate, infinitely greater benefit would be rendered the community, than can possibly result from giving sanction to the impostures of indian and obi doctors.

VII.

Memoires de Chirurgie Militaire, et Campagnes de D. J. LARREY, *Premier Chirurgien de la Garde et de l'Hôpital de la Garde de S. M I. et R., Baron de l'Empire, Inspecteur Général du service de Santé des Armes, &c. &c. &c.* 3 *Tom.* 8*vo. Paris.* 1812.

From the Edinburgh Medical and Surgical Journal.

No one can have read the surgical history of the French expedition to Egypt by Larrey, without wishing for a continuation of that important and curious knowledge which military campaigns afford. In following the armies of Bonaparte, this accomplished surgeon-general has displayed a zeal and activity which cannot be surpassed; and he has collected a mass of experience relative to different objects of military surgery, which an individual, by his own exertions, has never before been able to achieve.

These volumes contain an historical account of all the campaigns which the author has served, from the beginning of his career in 1787, to the close of the Austrian campaign at the battle of Wagram in 1809, and his "Relation "chirurgicale de l'Armée de l'Orient," reprinted without any material alteration or addition. The first volume opens with his voyage to North America, in the capacity of Surgeon on board a frigate, during which he encountered many dangers, and escaped many complicated evils, without observing any thing very new or important in he way of his profession. On his return to Paris in 1789, and previous to his first campaign in Germany, many memorable events occurred, which furnished abundant opportunities for seeing wounds of all kinds, and watching their treatment by Dessault at the Hotel Dieu. It was at the taking of Spire with an army of 40,000 men, under General Custine, that Larrey first discovered the very great defects of the hospital staff in the French army, and the imperfect manner in which its duties were performed. Military regulations had determined the fixed station of the hospital-staff, in consequence of which the wounded were left on the field of battle until fighting ceased. They were then assembled in some convenient place, and the medical officers brought up as quickly as possible; but the delay was unavoidably so great, that twenty-four, sometimes thirty-six hours, and more, elapsed before they could be attended to;—consequently many men perished for want of assistance. Carriages, or waggons, constructed on springs, for the purpose of receiving the wounded, were proposed by Larrey, and a corps of men and horses appointed to attend them, furnished with proper instruments, dressings, and medicines;—a sort of moveable infirmary, always to attend the advanced guard, and to follow the squadrons like flying artillery. This invention had a powerful effect upon the minds of the soldiers, who were thus assured of being dressed immediately after being wounded, and carried off the field. In every subsequent campaign these *ambulances volantes* were constantly employed, and they appear to be well suited for their purpose.

The capture of Mayence afforded our author an opportunity of prosecuting his anatomical studies, under Soemmering; and we are continually reminded of his indefatigable zeal for his own improvement, and for that of the young surgeons in the army, by frequent notices of a clinical school being established by him at every place where an hospital was to be found, and where he was stationed, though only for a short time. In all the principal towns in Italy, in Egypt, in Prussia, Poland, Spain, and Austria, Larrey never failed to devote some time in every week to clinical lectures and anatomical demonstrations, which must have been instructive to the hospital mates, and very advantageous to the whole medical staff. He was called away from the army of the Rhine to Paris, to arrange the hospital-staff for all the armies. In the mean time he married, but was soon obliged to leave his wife at Toulouse, being ordered to join a division of the army destined to Corsica.

At Toulon he presented himself to the commanding officers, among whom was General Bonaparte, commander of the flying artillery. This expedition to Corsica was stopped by the British cruisers, and the troops and surgeon general had sufficient occupation in Italy. It was during his residence on the Italian coast, that Larrey opened the bodies of persons who had been drowned, and he says, he found that the cause of death in these cases is the introduction of water into the bronchiæ; the lungs he found always heavier and less crackling than in their natural state, and filled with a reddish-coloured fluid. He saw very little water in the stomach, but evident marks of the want of proper changes in the blood. Although we allow these facts, we are surprised at the author's conclusion; because it is now admitted, that the water discovered in the lungs passed in after death, since animals taken immediately from the water after submersion, are not found to have received any. The immediate cause of death from drowning has not been completely ascertained. Many probably concur,—but we think experiments have proved the fallacy of that opinion which attributed the suspension of vital action to the accumulation of water in the lungs.

A singular disease appeared among the regiments who returned to France from the Maritime Alps, in the spring of 1794. It was mistaken by some for a syphilitic, by others for a scorbutic complaint. It is an affection of the mucous membrane of the mouth; the gums become excoriated; aphthæ cover the inside of the mouth, which put on a whitish and chancrous appearance, accompanied by diarrhœa and excessive weakness. Melted snow, which is said, when drunk, not to allay, but to increase thirst, was supposed to be the cause of this disease. Mercury aggravated the symptoms. Acids, generous diet, rest, good air, and warm lodging, cured them. A similar complaint attacked the grand army at Osterode, in Prussian Poland, after the battle of Eylau.

In the campaign of Italy, many instances occurred of the breaking out of contagious fever in barracks, and towns, and on board ships, which could always be traced to filth, want of ventilation, and marshy ground, and the progress was always stopped by attending to these causes.

The springing of some batteries furnished an opportunity for our author to record his method of treating burns. He employs mild ointments and soothing applications first, and then makes use of stimulating ointments. He protests against the early application of discutients, such as cold water, preparations of lead, lime, opium, &c. and adduces the unfavourable termination of cases so treated, after the dreadful fire at the Austrian ambassador's fete at Paris, in 1810.

We can afford no room to make extracts from the account of the campaign in Egypt; In 1805 Larrey was ordered from Paris to Boulogne, where the army was embarked, and the Emperor was present in command, waiting for the arrival of the combined fleets of France and Spain, which were to attack our ships in the Channel, and assist in the invasion of England; but in the midst of these immense preparations, a new continental coalition was formed, and France was threatened by the armies and high political tone of Austria. At this critical juncture, Nelson vanquished the combined fleets in the battle of Trafalgar, and the face of every thing was changed by the result of that achievement. A new plan of operations was instantly decided on; the troops were disembarked from the flotilla; and they traversed France, crossed the Rhine, and entered Germany with so much rapidity, that the Austrians were attacked before they were fully assured of the French army having begun to march. The capture of Ulm, and of the whole of Mack's army, is entertainingly described, and the contrast between the conquerors and the conquered is patriotically drawn. There was continual rain and snow during their route to Vienna, and the soldiers were unable to dry their clothes, so rapid were these forced-marches. They were also unprovided with the necessary defence against the vicissitudes of the weather, from their baggage not being able to keep pace with their movements, and the soldiers were only served with a regular supply of provisions in the large towns. In spite of all these hardships, there were scarcely any sick. The constitution of the men seemed to become more robust, their minds were so elated by victory; and hence we may account for the success of the Greeks and Romans in their expeditions where the obstacles appeared insurmountable. A soldier accustomed to the duties of the army, endowed with a true military spirit, and arrived at the age of manhood, will not become sick, whatever fatigue he may undergo in an inclement season, provided he is not compelled to remain too long without food. We are inclined to think this observation will be confirmed by the experience of all military surgeons. The irregular supply of food, and the unfinished growth, the imperfect developement of the physical powers of the body in many of the soldiers who enter the army before they have reached the period of manhood, appear to us to be two of the great sources of a long sick list in a campaign.

After the battle of Austerlitz, the wounded of both French and Russian armies were assembled in great numbers at Brunn. In consequence of so many men being crowded together, a malignant typhus fever broke out, which committed extensive havoc. The hospital gangrene also occurred, which spread rapidly, and, in less than a month, the hospitals appropriated for regiments of the line lost one fourth of their wounded patients; but the guards were fortunately saved from this contagious malady, by being situated at a distance from the other sick and wounded, in an airy hospital, in another part of the town.

The remedies employed were, cupping upon the nape of the neck and the hypochondriac regions; sinapisms applied to the soles of the feet: stimulants and antiseptics to the wounds; acid drinks, and cordial draughts, composed of æther, camphor, and musk. General bleeding, recommended and practised by some physicians in this disease, constantly proved fatal. Dr. Roussel fell a victim to this remedy, which he insisted upon being employed in his own person, when he was attacked with a fever which he caught in the hospitals. In the advanced period of the disease, strong mineral acids were administered, and the body washed all over with cold camphorated vinegar, and even with ice, when the animal temperature was very high. Opium and bark proved injurious in the beginning of the disease; they were afterwards employed with good effects. Wine and coffee are not to be neglected, if those articles can be procured. Blisters, Larrey says, have not afforded the benefits which have been attributed to them in typhus-fever, *(le fièvre adynamique)*: the excoriations produced by them, he has observed, soon assume the character of sphacelus, or hospital-gangrene; the gangrene increases, and the general weakness remains the same. In cases where *l'ataxie* prevails, blisters are of great service. This contagious fever attacked the Russian prisoners, who were obliged to be lodged in the churches and other large buildings, and it spread among the inhabitants of the towns, through which these prisoners passed in great numbers on their way to France, along with the sick and wounded of both nations.

During the short stay which Larrey could make at Paris after his return from the campaign of Austerlitz, he collected his notes of the different circumstances he had observed in the dissection of persons who died from internal aneurism, and made them the subject of a memoir, which he communicated to the medical society. His observations agree with those of Scarpa, Sabatier, and Corvisart, and he seems perfectly satisfied in assigning, as the cause of aneurism, some disease of the external coat of the artery, which he ascribes to some *virus*, either syphilitic or scrofulous, in the constitution. Aneurism is rarely seen among soldiers; it seldom arises from wounds or blows; it is more common, as Bichât remarks, among stage-players, who live intemperately. Some cases are related, in which the exhibition of mercury is said to have been followed by a diminution of the dilatation of the artery; but it must be recollected how strongly the author's mind is prepossessed with the notion of venereal virus being the principal cause of the disease of the inner coat of the arteries, and especially of the heart.

After the dissertation on aneurism, Larrey, in a sensible memoir on the spontaneous causes of active arterial hæmorrhage, describes the changes which ligatures induce upon the natural powers of the artery, in suppressing the bleeding from its divided coats. His practice and experience have led him to precisely the same conclusions, as those Dr. Jones drew from his able experimental inquiry. The orifice of the vessel is not stopped, he says, by the formation of a clot of blood, but by the contraction and adhesion of the coats of the artery. The following passage is so curious and important, that it deserves to be recorded in the author's own words:

> ' L'inflammation *adhésive* des parois d'une artère ouverte se fait
> ' comme nous l'avons dit, d'autant plus promptement que le vaisseau
> ' est plus irritable, que le sujet est jeune, et qu'il y a chez lui une plus
> ' grande energie vitale. Aussi nous voyons rarement survenir des hémorragies
> ' dans les opérations que nous pratiquons pour les maladies
> ' aiguës, telles que les blessures qui resultent des combats. Cependent
> ' il arrive souvent que les ligatures sont déplacées ou mêmes arrachées
> ' peu de temps après l'operation par les secousses ou les tiraillemens
> ' que les blessés opérés eprouvent pendant leur transport des
> ' ambulances aux hôpitaux de première ligne. Ce court espace de
> ' temps (12 ou 24 heures) suffit pour établir l'inflammation adhésive.—
> ' Convaincu de cette vérité, je ne fais jamais qu'un seul nœud au cordonnet
> ' de fil que j'emploie pour la ligature, même des plus gros vaisseaux.
> ' Le deuxième nœud est inutile, et s'oppose souvent à la chute
> ' du cordonnet qui peut-être engagé dans la cicatrice, comme j'ai eu

'occasion de le remarquer plusieurs fois, et il est alors très difficile de 'l'extraire. J'ai été obligé dans quelques circonstances, d'aller profondement couper sur l'artère, avec des ciseaux, l'anse du fil. Il 'n'en est pas de même pour les operations que l'on pratique à la suite 'des maladies chroniques. Les malades sont epuisés, les forces vitales 'se trouvent affaiblies, et l'hémorragie se renouvelle facilement, 'parceque l'inflammation adhésive s'établit dans ce cas d'une maniere plus lente; il est indispensable alors de faire deux nœuds à la 'ligature, et de lier même les plus petits vaisseaux. L'application 'd'un styptique, sur les artères récemment coupées chez les animaux, 'suffit ordinairement pour arrèter l'hémorragie et opérer l'inflammation adhésive. J'ai repeté un grand nombre de fois cette expérience. 'Chez l'homme il arrive souvent que les lotions d'eau froide ou l'impression du froid suffisent aussi pour crisper petites artères coupées 'et pour produire cette inflammation: en sort que dans beaucoup de 'cas, on pourrait se passer de ligature, bien qu'il soit prudent de faire 'celle de tous les vaisseaux apparens. Dans les opérations que nous 'avons faites à la battaille d'Eylau, avec quatorze et quinze degrés 'de froid au-dessous de zero, nous n'avons eu que les gros troncs des 'artères a lier, et la ligature la plus superficielle et la plus simple a 'suffi. Aucun de nos blessés ne périt d'hémorragie pendant le long 'trajet qu'ils eurent à parcourir pour arriver à leur destination, au delà de la Vistule.'* Tom II. pp. 385, 386.

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* This extract appears to have been carelessly transcribed; we have corrected several evident errors. The following translation is we believe sufficiently correct.

"Adhesive inflammation in the coats of a wounded artery occurs most readily in proportion to the irritability of the vessel, and the youth and vital energy of the patient. Accordingly we seldom find hemorrhage follow operations performed for acute diseases, such as wounds received in action. It often happens, however, that the ligatures are displaced or even dragged off by the jolting which the patients undergo during their removal in the hospital waggons to the general hospitals.—This short time (12 or 24 hours) is sufficient to establish the adhesive inflammation. On this account I never make but one knot on the ligature which I employ, even for the largest vessels. The second knot is useless, and often opposes the coming away of the ligature, which may be retained by the cicatrix: and as I have several times witnessed, be extracted with difficulty. I have even been obliged to pass a scissors to a depth sufficient to cut the noose upon the artery.—It is otherwise with operations performed for chronic diseases. The sick are exhausted and their vital powers weakened; and hemorrhage is easily renewed, because the adhesive process is tardy. It is then necessary to make two knots on the ligature, and to tie the smallest vessels. The application of a styptic to divided arteries of animals, is commonly sufficient to arrest the bleeding and produce adhesive inflammation,—an experiment I have often repeated. In man, the applications of cold water to the part, or the general sensation of cold, will often produce both shrinking of the small arteries, and the adhesive inflammation: so that in many cases the ligature may be omitted. It is prudent, however, to apply it to all vessels that are visible. In the operations we performed at the battle of Eylau, where the cold was 14 and 15 degrees (Reaumur) below zero, we had to tie only the larger arterial trunes, Young soldiers are subject to a disease in the joint of the hip, and of the vertebræ, which is characterised by our author as the effects of *rheumatic virus*, *(des effects du vice rheumatismal sur le systéme fibreux et osseux)*. It is that formidable disease of the cartilages and articulating surfaces of bones, described by Pott, Ford, Crowther and others, which is sometimes called rheumatism, sometimes scrofula, to conceal our ignorance of the real nature of the exciting cause. Larrey boasts of his success in combating the symptoms of this disease at its first onset; all his patients were between 18 and 20 years of age, and, being soldiers, they of course came under his care before the symptoms had made much progress. If there is the least appearance of local congestion, he applies scarifications and cupping-glasses, blisters, moxa, and the actual cautery to the part affected. Mercurial frictions are

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and the most superficial and simple ligature sufficed. Not one of our wounded died from hemorrhage during their long journey to their place of destination, beyond the Vistula."

This passage needs to be interpreted as well as translated, and for our readers' sake *only*, we regret that we are not well enough versed in the French doctrine of the ligature, to be positive that our interpretation is true. The cicatrix by which the ligature is retained (engage) cannot be that of the skin, or M. Larrey would not have cut so deep for its extrication. It must be the end of the artery beyond the ligature, contracted and cicatrised. We presume therefore that M. Larrey depends on loosening his *single* knot, and withdrawing it over this withered end of artery, as soon as he judges adhesion to have taken place; and it is evident that a *double* knot cannot be thus loosened and withdrawn.—*We* not only make double knots but pass the ligature through this very end of artery which is to be cicatrised, and tie it again (as did Dionis a century ago in France) and yet we do not hear of cutting the noose upon the artery.

Our readers are doubtless aware, that the late Dr. Jones has suggested and proved, concerning the operation of the ligature, one of the most simple and scientific doctrines that surgery can boast.—When a ligature is applied round a vessel, the internal coat being brittle is lacerated; while the external, being firm remains unbroken. On the lacerated surface lymph is poured out, by which adhesion of the opposite sides is affected; and the external coat is absorbed where it is compressed by the ligature, which is thus cast off. To such a process a double or triple knot will be no obstacle.—That adhesion of the *unbroken* sides of a vessel can take place, we do not deny; but greater inflammation is necessary to effect it, and the absorption caused by the ligature will be slow on account of its having been tied with less firmness. To this latter set of principles, M. Larrey's practice appears to be adapted.—We must enter our protest against them; as also against the tendency of his remarks to lessen our diligence in the use of the ligature.

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directed as near as possible to the seat of the disease, at intervals of four or five days, although no suspicion of syphilis exists. This remedy, he says, produces excellent effects in all disorders, improperly called lymphatic disorders, if the patients are not already too much reduced. When matter is formed, he opens the abscess by passing a sharp-pointed wire, heated red-hot, through it, and evacuates the pus as soon as possible, leaving a seton of thread in the opening. The application of moxa is to be continued, and the mercurial frictions, whilst cinchona, opium, and wine are to be administered internally, according to the state of the constitution.

Volume 3d opens to us descriptions of greater variety and higher interest; it begins with the campaign of Saxony and Prussia, in the months of September and October, 1806; and relates the overthrow of the Prussian monarchy at the battle of Jena, which afforded our author the opportunity of visiting Pottsdam, Charlottenburgh, and Berlin. Towards the end of December, the weather became very cold, and several soldiers at Berlin were suffocated by carbonic acid gas, whilst sleeping in rooms overheated by stoves; those men who lay on the floor nearest the stove died, those who slept on tables and chairs, or bedsteads near the windows, escaped. Five men were brought one morning to the hospital in a state of suspended animation, three of whom died, and two recovered. The same morbid appearances were found on dissection, as in persons who died by asphyxia; they are here particularly described.

The army marched from Berlin to the banks of the Vistula, night and day, through cold wet weather, and long roads rendered almost impassable by mud, which reached up to the horses' bellies, and stopped the wheels of the artillery and baggage-waggons at every turn. Larrey describes the march from Golominn to Pultusk as the worst and most difficult the troops ever endured. The soldiers, especially the young conscripts, were exhausted by these forced marches, by bivouacs in wet and cold, without food and without good drink; many became affected with catarrhal and gastric fevers.

At Warsaw, he investigated the nature of Plica Polonica, and satisfied himself that it is a local factitious disease, produced by dirt and neglect. It is not contagious, and may be cured with facility, notwithstanding all the absurdities which prejudice and quackery have set forth on the contrary. Dr. Chamseru, an army physician, has written a memoir to establish the same doctrine, derived from his own experience. Our author departed from Warsaw to join the army on the first of February, when the snow was three feet deep upon the ground, and the thermometer stood at 6° and 7° below zero, Reaumur.

The description of the bloody battle of Eylau, and the situation of the surgeons who took care of the wounded, is enough to make the stoutest hearts tremble. The thermometer, early in the morning, had fallen from 24° to 18° of Fahrenheit's scale. The surgical staff was placed in a barn near the road, exposed on all sides, the straw which formed the walls being carried away for the horses; the wounded men were laid upon the snow mixed with bits of straw; and the cold was so intense, that the instruments often fell from the hands of the assistants during the operations. In the midst of their laborious and painful duties, they were thrown into great consternation, by an unexpected attack of the Russians upon this very spot, and they all expected to have been taken prisoners, but were saved by a vigorous charge of cavalry, and continued their work until darkness and fatigue obliged them to stop a few hours to warm themselves by a fire, whilst sitting on frozen snow. The impossibility of procuring food, lodging, and accommodations at Eylau, compelled the removal of the wounded, soon after they were dressed, to Inowraklau, a distance of fifty-five leagues, over horrible roads, in this unclement season, and, what is extraordinary, in spite of the difficulties of travelling, and the dangerous nature of their wounds, they arrived at their destination in a very good state. Scarcely one in eleven perished. Some cases which appeared hopeless when lifted into the waggon, recovered, and on the whole, more men recovered, than if they had been allowed to remain in the hospitals at Eylau, for they were free from contagious fever and hospital-gangrene. The advantages of removing soldiers to distant quarters after a battle are ably stated.

Under the heads of dry gangrene, produced by cold and gangrene of wounds, some remarkable facts are mentioned, and some practical rules given, well-deserving our attention. Few soldiers of the advanced guard in Poland escaped the destructive effects of the severe cold upon their toes, feet, nose, or eyes, after the battle of Eylau. The gangrene in some cases was confined to the skin and soft parts; in others, the feet were destroyed by mortification. What is remarkable not a single man suffered from the frost during the time the mercury was so low as 10°, 11°, 12°, 13°, 14°, and 15° of Reaumur's scale, (down to 0°, Fahrt. and below it); but as soon as the thermometer rose above 0°, R. (up to 43° Fahrt), and a thaw began, many of the soldiers complained of violent pains and numbness in their extremities, with loss of feeling and animal heat, and the parts assumed a deep red colour; *some* were black and dry. Those who got into the town, and exposed themselves to the fire, fared the worst: those who followed medical advice, and rubbed the frost-bitten parts with snow, and brandy and water, escaped mortification, if it had not already taken place. Larrey considers *cold* only the predisposing cause of mortification; the sudden application of a higher temperature to parts benumbed by cold, is, in his opinion, the exciting cause of this melancholy accident.

When gangrene attacks wounds, the progress of the symptoms is essentially different, and the method of treatment must vary accordingly. Whatever may be alleged by authors and practitioners, the result of numerous observations have authorized Larrey to declare that amputation ought to be performed without hesitation or delay in all cases of bad wounds, as soon as ever symptoms of gangrene begin to show themselves. There is no reason to fear the stumps will be affected by gangrene; amputation properly performed, he confidently affirms, arrests the progress of the disease and prevents the fatal termination.

A good description is given of the medical topography of Madrid; for no sooner had the surgeon-general returned from Poland, than he was ordered to inspect the military hospitals in Spain. All the circumstances are stated which may be supposed to occasion the colic, (colic de Madrid); and the conclusion is, that the vicissitudes of the weather, the vast difference between the temperature of the days and nights, and the dress and habits of strangers, not being suited to the climate, render this city an unhealthy quarter for soldiers. It is very important for those who go to Madrid to avoid exposing themselves to the cold and dry air of the evening and night. A malignant fever broke out among the soldiers, which was attributed to the use of adulterated wines; but the proofs of narcotic vegetable poisons being mixed with water, and added to the wine sold in the public-houses at Madrid, are not sufficiently precise and authenticated to establish the fact. Patients were suddenly seized with stupor and suspension of sensorial power, which was followed by violent fever of a low malignant character. Mons. Frizac, the author's favourite pupil, died of this disease on the third day after he was attacked; his death is attributed to his taking opium, and afterwards two or three small glasses full of brandy, bought in some shop where adulterated spirits were sold.

At Valladolid, the sick and wounded among the British prisoners came under our author's care, and he speaks of the miserable condition they were in, from the hardships they had undergone in traversing the mountains of the Asturias, when the thermometer stood nearly at 0° of Fahrt. Typhus fever raged amongst them and also amongst the French, but it was checked by proper care, and by a liberal supply of excellent wine and cinchona, (loxa,) which the Spaniards were compelled to furnish. A curious case is related of an English soldier of the twelfth regiment of light infantry, who became all on a sudden dropsical during his convalescence from fever; the anasarcous swelling was confined to the right half of his body, whilst the left side remained in its natural state. This complaint was obstinate, but it yielded at length to the treatment employed by the French physicians. Another case is related of gutta serena, brought on by exposure to severe cold, in a drum-boy, thirteen years old, son of a corporal in the 12th regiment, who was taken prisoner. The boy's hair had been just cut very short, and he had walked, without shoes, from Corunna to Valladolid, in the rigorous winter weather. His case excited great compassion, and our author undertook to restore his sight, which he happily accomplished, by putting him into a bath, by giving him diaphoretic bitter medicines, and by applying moxa over the passage of the facial nerve at its coming out of the cranium, behind the angle of the jaw. His head was rubbed with an alkaline camphorated liniment, covered with a woollen cap, and his eyes washed with warm wine camphorated. After the second application of the moxa, the boy saw light; after the fourth, he distinguished objects and colours; and after the seventh application, his sight was perfectly restored. To prevent inflammation and suppuration from the burnings of the moxa, ammonia was immediately applied upon the parts, which is constantly recommended after using moxa,* and it is a favourite remedy in paralysis and other cases. From his attendance upon the British prisoners, Larrey caught the typhus fever, and, for ten days, was in imminent danger of falling a sacrifice to it at Burgos, but he recovered, and soon set out once more to join the guards who had advanced into Bavaria, on their route for the second campaign in Austria, in the spring of the year 1809. The bridges across the Danube were all destroyed by the Austrians, which compelled the French to construct bridges of boats; and the hospitals were placed on the island of

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* May we not on this authority apply ammonia to burnt and scalded surfaces generally? In what properties do ammonia, oil of turpentine, cold water, and cotton wool agree, that they are all efficacious in preventing inflammation when immediately applied?

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Lobaw, one of those islands formed by the division of the river into several branches, below Vienna. It was whilst the armies were thus situated that the battle of Eslingen took place, which furnished a great number of wounded, amongst whom was marshal Lasnes, (Duke of Montebello), who was struck by a cannon ball upon the knee and thigh, which fractured the bones of the joint of one limb and lacerated the muscles of the other. His case is minutely detailed, with strong expressions of feeling, for he was the intimate friend of Larrey, and they had been together in many campaigns. His thigh was amputated, but he died on the ninth day after the operation, from fever, at Ebersdorf. The hospitals on the isle of Lobaw, underwent great privations in consequence of the difficult communication with the main-land by the few boats, and the uncertain supply of provisions and the necessaries of life. Larrey was obliged to prepare soup for his patients, made by boiling horse flesh, and seasoning it with gunpowder for want of salt. It was not unpleasant to the taste: the dark colour which it might be supposed to have from the gunpowder, was destroyed by the cooking, and, combined with biscuit, it formed excellent soup, on which the sick and wounded and the medical staff lived three days.

In Germany, as well as in Egypt, Larrey observed, when tetanus was caused by wounded nerves, if the wound was situated on the anterior part of the body, emprosthotonos was the form of disease excited; if the nerves of the posterior part of the body were injured, opisthotonos occured; if the wound extended across a limb, so as to wound equally both series of nerves, complete tetanus took place. Trismus rarely happens from wounds, unless as a part of the general tetanus. This accident does not commonly follow severe wounds, unless in seasons when the temperature of the air changes from one extreme to another. Patients exposed to the cold and damp air of night, especially during the blowing of north-easterly winds in spring, are liable to be seized with tetanus; and it rarely attacks them when the weather does not change. Some cases are related to prove the good effects of applying the actual cautery to the whole surface of the stump, in tetanus after amputation.

One of the most difficult points in military surgery is to determine when to attempt the extraction of a ball, or any other foreign substance lodged in a wound, and when it is right to let it alone. No certain and invariable rule, our author says, can be laid down; the sagacity of the surgeon must lead him to decide on every individual case, bearing in mind, that the best practice is to leave the ball when the danger of extracting it is considerable, and when no urgent symptoms are present.

Ample experience has confirmed Larrey's opinion of the advantages of amputating at the hip-joint and the shoulder-joint. After the battle of Eslingen he removed fourteen arms at the shoulder-joint, twelve of whom recovered perfectly. The ease and expedition with which he performs these two capital operations is astonishing; and the earnestness with which he urges the necessity of amputating as quickly as possible after the injury has been received in a battle, deserves the serious attention of all our naval and military surgeons.

Those remarkable accidents attributed to the *wind of a ball*, are slightly noticed in the course of the author's researches, and he is disposed to consider them as owing to the effects of contusion, which materially injures the nerves and soft parts, although the integuments of the body give way to the impression of the spent ball, and escape being torn or wounded. He gives two histories of soldiers struck down apparently dead, without any marks of severe injury; they both recovered their senses; but one of them remained without the power of speech or taste, from the shock supposed to be given to the eighth pair of nerves.

Of several memoirs on practical subjects, our limits will not permit us to subjoin a catalogue. We take leave of this work, expressing our conviction, that the English reader who wishes to be acquainted with the manner, and method, and spirit of French surgery, will thank any translator who will reduce the substance, of these three bulky volumes into a compendious and accessible form.

VIII.

Idea of a new Anatomy of the Brain, submitted for the examination of his friends, by Charles Bell, *F. R. S. E.*

" The want of any consistent history of the brain and nerves, and the dull unmeaning manner which is in use of demonstrating the brain, may authorise any novelty in the manner of treating the subject."

Nothing can be more true, and yet many things are more striking, than the " dull unmeaning manner of demonstrating the brain." If the heart is to be dissected, we open at the entrance of one of the veins, examine the auricle, pass to the ventricle and examine the mechanism of valves, &c. we trace the great artery passing out, and in imagination follow the blood in its circulation, till passing into new veins it returns to the other auricle ; this and its corresponding ventricle, are then examined. Thus we have a lively " manner of demonstrating," full of meaning, and carrying conviction with demonstration.

The same may be observed of most other parts. Perspicuity and arrangement are generally studied, and even where the ultimate structure cannot be ascertained the anatomical art is not to be censured.

The brain has furnished less than its share of physiological and pathological science. Comparatively speaking, little is known of its structure, nor can there be while it continues to be demonstrated slice by slice. As there is dark matter surrounding its white substance, we can remove a good piece of the upper part of the brain, cut out the cineritious substance at the cleft of the hemispheres, and then behold we have a white central part with an ash-coloured border. We have seen the slicing used to accomplish this pompous demonstration, occupy a full quarter of a lecture. After such pains, it surely is well entitled to the classical appellation of centrum ovale.

This is not the only case in which anatomists have deceived themselves into a good conceit of their own knowledge. The arbor vitæ is about as learned.; cut in this direction and you have a tree—cut in this other, and behold a very marble in layers of cream colour and white.

Far be it from us to forbid the demonstrating of all that is known of this important organ. We only fear lest names be mistaken for knowledge. When a student is told that a blow on the occiput is more dangerous than on any other part of the head, he learns a good practical maxim ; but if if he desires an explanation of the fact, all that is before him is, that the cerebellum is within the occiput, and that the cerebellum contains the arbor vitæ. Or if he hears that a superficial wound of the cerebrum is not always fatal,—is he to account for it by saying that the centrum ovale has not been touched ?

The many intricacies of the nervous system have as yet been improved to no other purpose than aiding the doctrine of sympathies. This is well so far as it goes, it will appear however in the sequel, that many new and important views are offered by Mr. Bell.

For our present purpose we will divide the nervous functions of the body into two classes. The former comprehends sensation, and motion, the latter the vital operations. The first fit the animal for a communication with the world and other beings. The second regulates the internal economy ; and includes perhaps the involuntary motions necessary for the circulation of the blood, and for respiration, and those of the intestines and blood vessels ;—it includes secretion, nutrition and absorption, whether effected by muscular action or by a peculiar power ; also digestion and assimilation so far as these changes are animal rather than chemical.

This division will not we think appear arbitrary, even at first sight, and the quotations we shall introduce from Mr. Bell, will give it great plausibility and consistency.—The cerebrum is supposed to receive sensations, and to distribute volition, which is the cause of motion. The cerebellum is the seat of the vital energies. The following remarks prove that they are distinct organs.

'I speak of the lateral divisions of the brain being distinct brains 'combined in function, in order the more strongly to mark the distinc'tion between the anterior and posterior grand divisions. Betwixt the 'lateral parts there is a strict resemblance in form and substance :— 'each principal part is united by transverse tracts of medullary mat'ter; and there is every provision for their acting with perfect sym'pathy. On the contrary the cerebrum the anterior grand division, 'and the cerebellum the posterior grand division, have slight and in'direct connexion. In form and division of parts, and arrangement of 'white and grey matter, there is no resemblance. There is here no'thing of that symmetry and correspondence of parts which is so re'markable betwixt the right and left portions.

'I have found evidence that the vascular system of the cerebellum 'may be affected independently of the vessels of the cerebrum. I 'have seen the whole surface of the cerebellum studded with spots of 'extravasated blood as small as pin heads, so as to be quite red, while 'no mark of disease was upon the surface of the cerebrum. The ac'tion of vessels, it is needless to say, is under the influence of the parts 'to which they go ; and in this we have a proof of a distinct state of 'activity in the cerebrum and cerebellum.

'From these facts, were there no others, we are entitled to conclude, 'that in the operations excited in the brain, there cannot be such 'sympathy or corresponding movement in the cerebrum and cerebel'lum, as there is betwixt the lateral portions of the cerebrum ; that 'the anterior and posterior grand divisions of the brain perform dis'tinct offices.'*

Almost every part of the body possesses sensation, and secretion and nutrition at least, of the vital functions ; to each of these parts therefore must proceed a nerve from the cerebrum and one from the cerebellum. If we can any where find these nerves separate, experiments may be made to test the truth of the doctrines advanced. The following were made by Mr. Bell, and we consider them as conclusive as any that have been made on the nervous system.

'In thinking of this subject, it is natural to expect that we should 'be able to put the matter to proof by experiment. But how is this 'to be accomplished since any experiment direct upon the brain it'self, must be difficult if not impossible ? I took this view of the sub-

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* We are unable to quote the numbers of the pages, as our review is made from a manuscript, taken by one of the Editors, from the only copy of the pamphlet in this city.

'ject. The medulla spinalis has a central division, and also a distinction into anterior and posterior fasciculi, corresponding with the anterior and posterior portions of the brain. Further, we can trace down the crura of the cerebrum into the anterior fasciculus of the spinal marrow, and the crura of the cerebellum into the posterior fasciculus. I thought that here I might have an opportunity of touching the cerebellum, as it were, through the posterior portion of the spinal marrow, and the cerebrum by the anterior portion.

'I found that injury done to the anterior portion of the spinal marrow convulsed the animal more certainly than injury done to the posterior portion; but I found it difficult to make the experiment without injuring both portions.

'Next considering that the spinal nerves have a double root, and being of opinion that the properties of the nerves are derived from this connexion with the parts of the brain, I thought that I had an opportunity of putting my opinion to the test of experiment, and of proving at the same time, that nerves of different endowments were in the same cord, and held together by the same sheath.

'On laying bare the roots of the spinal nerves, I found that I could cut across the posterior fasciculus of nerves, which took its origin from the posterior portion of the spinal marrow without convulsing the muscles of the back; but that on touching the anterior fasciculus with the point of the knife, the muscles of the back were immediately convulsed.'

There are few physiological doctrines which have as good an experimental foundation as is contained in the above paragraphs. It is established that the anterior and posterior portions of the spinal marrow are differently affected by the same means. None will deny that these portions are productions of the cerebrum and cerebellum. And as the nerves from the two portions run together to very minute divisions, distinct functions can scarcely be derived from the part to which they are distributed. They must therefore be derived from the brain, and we conclude that the two portions of the brain are very differently affected by the same means, that is, they possess different functions. But one of these functions is sensation and consequent motion (in the above experiments, convulsive motion), that the functions of the other portion are vital, is to be established by farther experiments. These Mr. Bell does not appear to have made. We shall supply the deficiency by a reference to some experiments made by M. Dupuytren in Paris, the detail of which will be found in the Eclectic Repertory, vol. 1. p. 286.

M. Dupuytren made a number of experiments with the view of "determining the kind and degree of influence of the vital action of the lungs, in the changes which the venous blood undergoes in passing through these organs."—These changes are caused proximately by chemical attraction of oxygen for a part of the venous blood. But an absorption of this oxygen or secretion of part of the blood must be first effected, and these are vital actions. The lungs receive nerves from the eighth pair, or par vagum, which arise from the corpora olivaria, parts of that fasciculus of the medulla oblongata, which arises from the cerebellum.

A horse was secured, (in one of M. Dupuytren's experiments) and the par vagum on both sides were dissected free from the other parts, to be ready for experiments. One of the arteries of the head was then opened, and the florid colour of the blood shewed that the lungs performed their functions. The two nerves were then cut. The animal continued to respire, though with difficulty and apparent pain. But on examining the stream from the artery, it was found of a dark colour like venous blood. This experiment was several times repeated.—When only one of the par vagum was divided, the change was not so complete, but might be observed in the colour of the lips, &c.

As the breathing was not stopped, this appearance of the blood is not to be attributed to the want of oxygen in the lungs,—it is only attributable to a cessation of the vital operation by which it is made to act on the venous blood, in consequence of the division of the two nerves.

In Mr Bell's experiments it was shewn that the nerves of the cerebellum had nothing to do with sensation or motion—in this, it is proved that they are concerned in the vital operations. It is therefore as evident as the case will admit, that the cerebellum is the seat of the vital energies, and that the cerebrum is the organ of volition and motion.

The above "idea" we consider as the most important part of Mr. Bell's paper. It is very reasonable and consistent, and it affords great relief to the mind from some of the intricacy and perplexity in which the study of the brain is involved. Several very curious reflections arise from this "idea." In the first place some explanation is afforded of the particular structure of nerves. Thus a nerve of sensation, a nerve of motion, a nerve conveying vital power, destined for a particular part, or many of them destined for several parts, may be all included in one bundle; and thus "the nerves which we trace in the body are not single nerves possessing various powers, but bundles of different nerves whose filaments are united for convenience of distribution, but which are distinct in office as they are in origin from the brain." In the next place we may perceive

> 'The meaning of the double connexion of the nerves with the spinal 'marrow; and also the cause of that seeming intricacy in the 'connexions of nerves throughout their course, which were not double at 'their origin.
>
> 'The spinal nerves being double, and having their roots in the spinal 'marrow, of which a portion comes from the cerebrum, and a portion 'from the cerebellum, they convey the attributes of both grand 'divisions of the brain to every part, and therefore the distribution of 'such nerves is simple, one nerve supplying its destined part. But the 'nerves which come directly from the brain, come from parts of the 'brain which vary in operation, and in order to bestow different 'qualities on the parts to which the nerves are distributed, two or more 'nerves must be united in their course, or at their final destination.— 'Hence it is that the first nerve must have branches of the fifth 'united with it;* hence the portio dura of the 7th pervades every where 'the bones of the cranium to unite with the extended branches of the 'fifth; hence the union of the 3d and 5th in the orbit; hence the 9th

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* Mr. Bell's argument will be better understood by bearing in mind the origin of the nerves, whether from the cerebrum or cerebellum.

1st	arises from	corpora striata	
2d.	do.	thalami	
3d.	do.	crura cerebri	
4th	do.	nates and testes	
5th	do.		crura cerebelli
6th	do.	corpora pyramidalia	
7th	do.	pons varolii	
8th	do.		corpora olivaria
	accessory		posterior roots of the 4. 5. 6. & 7 cervical
9th	do.	between corp. oliv. & pyramid.	

'and 5th are both sent to the tongue; hence it is, in short, that no 'part is sufficiently supplied by one single nerve, unless that nerve be 'a nerve of the spinal marrow, and have a double root, a connexion '(however remotely) with both the cerebrum and cerebellum.

'Such nerves as are single in their origin from the spinal marrow will 'be found either to unite in their course with some other nerve, or to 'be such as are acknowledged to be peculiar in their operation.

'Understanding the origin of the nerves in the brain to be the source 'of their powers, we look upon the connexion formed betwixt distant 'nerves, and upon the combination of nerves in their passage, with 'some interest; but without this the whole is an unmeaning tissue.— 'Seeing the seeming irregularity in one subject, we say it is accident; 'but finding that the connexions never vary, we say only that it is 'strange, until we come to understand the necessity of nerves being 'combined in order to bestow distinct qualities on the parts to which 'they are sent.'

Although we admire these "ideas" of the brain, we cannot but acknowledge one difficulty which appears to have escaped Mr. Bell. The gustatory nerve is a nerve of sense, that is sensation; it is however supposed to be a branch of the 5th pair, which is traced to the crura cerebelli. If this be the real origin of the nerve of taste there will be some *confusion* in the "idea," although the facts on which it is built, cannot be invalidated by a contrary fact. That the nerve of taste is furnished by the fifth, is rather admitted than proved;—if it be not furnished by the ninth, it may be by the portio dura of the seventh, from which the chorda tympani is sent to the gustatory branch of the fifth. Perhaps an experiment could be devised by which this might be tested. But even if it could not be proved, it cannot be denied; and it is sufficiently probable to meet the above difficulty.

We cannot leave unnoticed Mr. Bell's remarks on the seat of the intellectual functions. In these he is far from being so satisfactory as in his other "idea;" he has, however, supported his opinions with considerable ingenuity.

'—— we find, when we compare the relative magnitude of the cerebrum to the other parts of the brain, in man and in brutes, that in 'the latter the cerebrum is much smaller, having nothing of the relative magnitude and importance, which in man it bears to the other 'parts of the nervous system; signifying that the cerebrum is the seat 'of those qualities of mind which distinguish man.'

'As we proceed further in the investigation of the function of the brain the discussion becomes more hypothetical. But surely physiologists have been mistaken, in supposing it necessary to prove sensibility in those parts of the brain which they are to suppose the seat of the intellectual operations. We are not to expect the same phenomena to result from the cutting or tearing of the brain as from injury to the nerves. The function of one is to transmit sensation, the other has a higher operation. The nature of the organs of sense is different, the sensibilities of the parts of the body are very various. If the needle piercing the retina during the operation of couching gives no remarkable pain, except in touching the common coats of the eye, ought we to imagine that the seat of the higher operations of the mind should, when injured, exhibit the same effects with the irritation of a nerve? So far therefore from thinking the parts of the brain which are insensible, to be parts inferior (as every part has its use) I should even imagine that they had a higher office. And if there be certain parts of the brain which are insensible, and other parts which being injured shake the animal with convulsions, exhibiting phenomena similar to those of a wounded nerve, it seems to follow that the latter parts which are endowed with sensibility like the nerves, are similar to them in structure and use, while the parts of the brain which possess no such sensibility, are different in function and organisation from the nerves, and have a distinct and higher operation to perform.

'If in examining the apparent structure of the brain, we find a part consisting of white medullary striæ and fasciculated like a nerve, we should conclude that as the use of a nerve is to transmit sensation, not to perform any more peculiar function, such tracts of matter are media of communication, connecting the parts of the brain; rather than the brain itself performing the more peculiar functions. On the other hand if masses are found in the brain unlike the matter of the nerve, and which yet occupy a place guarded as an organ of importance, we may presume that such parts have a use different from that of merely conveying sensation; we may rather look upon such parts as the seat of the higher powers.

'Again, if those parts of the brain which are directly connected with the nerves, and which resemble them in structure, give pain when injured, and occasion convulsion to the animal, as the nerves do when they are injured; and if on the contrary such parts as are more remote from the nerves, and of a different structure, produce no such effect when injured, we may conclude that the office of the latter parts is more allied to the intellectual operations, less to mere sensation.

'I have found at different times all the internal parts of the brain diseased without loss of sense;* but I have never seen disease gene-

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* The case of B. V. in the Conclave Cadaveris the present number, will exemplify this.

'ral on the surface of the hemispheres without derangement or op-'pression of the mind during the patient's life. In the case of derange-'ment of mind falling into lethargy or stupidity, I have constantly 'found the surface of the hemispheres dry and preternaturally firm, 'the membrane separating from it with unusual facility.

'If I be correct in this view of the subject, then the experiments 'which have been made upon the brain tend to confirm the conclu-'sions which I should be inclined to draw from strict anatomy; viz. 'that the cineritious and superficial parts of the brain are the seat of 'the intellectual functions. For it is found that the surface of the 'brain is totally insensible, but that the deep and medullary part 'being wounded the animal is convulsed and pained.'

We will neither add to nor diminish from this argument of Mr. Bell. He has certainly the merit of ingenuity, and his theory is not without some analogies in its favour. We would ask, however, if the intellectual operations are performed in the cineritious substance of the cerebrum, what is performed in that of the cerebellum? The functions of the two parts are different, and their cineritious portions certainly are not continuous.*

We have quoted largely from Mr. Bell's paper, for we have seldom seen so much information on a very intricate subject contained in so small a compass; and we should not be surprised if they were to lead to improvements, at least in theory, if not practice.

Instead of merely shewing the student the cerebrum and cerebellum, and closing the lecture with a dull description of their external and internal appearances, let him be told that the former is the seat of sensation and volition, and probably of the intellectual functions. Let the experiments, analogies, and illustrations of Mr. Bell be adduced with as many more and better as can be made. Let him be told that the functions most essential to life are dependant on the cerebellum, that cut off from it the lungs will no longer purify the blood, that secretion will be stopped, and the power of the whole frame completely prostrated. Or if Mr. Bell's doctrines are not fancied, let experiments be made, and observations collected to disprove them. They are not beyond the reach of such opposition, but they can be reached by experiments only. If they should prove merely hypothetical, they will be infinitely more worthy of notice than the centrum ovale and arbor vitæ.

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* The query we have stated will admit an explanation, which though very theoretical, is perfectly consistent with Mr. Bell's "idea."

As the cineritious substance of the cerebrum is the seat of the faculty which takes cognisance of sensation, and superintends the distribution of volition, so may the cineritious substance of the cerebellum lodge a faculty having similar charge of the vital operations. There must doubtless be nervous filaments passing to the cerebellum, and proceeding from it; but we have no name for their *separate* functions, because we are unconscious of them. We are also unconscious of the operations of this supposed faculty; its existence, therefore, cannot be proved by observation or experiment; it is only supported by the analogy we have mentioned.

Enquiries into the seat of the mind have been charged with tending to establish materialism. This cavil is very short-sighted. There is no more materialism in placing the mind in the pineal gland, or the cineritious envelope, than there is in finding it placed in man. If the whole material frame contains the mind, any part of it may, and the argument for materialism be not a whit advanced. That materialists have forced these speculations into their service, is indeed true; but this also is very short-sighted. When sensation is felt from the pressure of a substance, from the impact of light upon the retina, or from vibrations within the semi-circular canal and cochlea, the impression and the perception are so wide, that no one considers these impressions as the perceptions. But imagine these impressions to be continued into the different parts of the brain, and then imagine some action or other change effected in these parts, or trace in imagination those actions still farther, to the cineritious matter of the cerebrum—and there are those who wish to think these changes the very perceptions. This is a mental idiosyncrasy for which we know not how to prescribe. Our ordinary understandings, and our more ordinary imaginations, can find, in the nicest changes of figure, no diminution of the great chasm between matter and mind.

IX.

Letters concerning the diseases of the Urethra, with plates, by Charles Bell. *American edition* 8vo. *pp.* 155 *printed at Boston,* 1811.

Of all the consequences of Gonorrhæa, strictures are certainly the most dreadful.—Inflammation in any way induced is liable to lay the foundation of them, they are not therefore always preceded by Gonorrhæa, for we have known accidental violence done to the penis, the cause of an obstinate stricture, and rude and improper attempts to introduce a catheter may have the same effect. In a general way however they are to be traced to irrregularities at some period of life.—It does not follow that strictures are a general consequence of Gonorrhæa, for we know perfectly well that many persons are cured without ever having the least symptoms of stricture, yet we are of opinion that they more frequently exist than many practitioners are aware, and sometimes render gleets exceedingly obstinate, and even incurable without the removal of the stricture.—The effect of inflammation upon the membrane of the urethra is to thicken it, and occasion a narrowing of the canal as we see in Gonorrhæa, by the stream of water being of a diminished size; this inflammation if violent is apt to leave in some part of the urethra a permanent contraction, from an effusion of coagulating lymph either on its surface or between it and the corpus spungiosum urethræ. In proportion to the violence of the inflammation will be the quantity of this lymph and of course the extent and size of thestricture. This is a hardened or degenerated state of the mucous membrane of the urethra, by which it looses its elasticity and pliancy, and is if you please in a state of callosity. The idea of a caruncle, or cicatrix in our opinion is entirely unnecessary, as all the phenomena of strictures can be explained upon the well known principles of inflammation.

The urethra in the adult being about nine inches in length, there is a very considerable extent of surface exposed to inflammation; strictures however are occuring most frequently at three different places where there is the most motion, as at the pubis, where it is bent, and at the lower part of the bulb and beginning of the membranous part, where it is constantly acted upon by the surrounding muscles. The inflammatory action in these situations must be excited to a higher degree, than in any other part of the canal, for we do not believe with some that the inflammation is confined to within an inch or two of the extremity of the penis. In dissection the end of the urethra for an inch or two, say in Gonorrhæa, has been found in a high state of inflammation, which has led many to suppose that it extended no further. This no doubt is true, in mild cases, but when the disease is in any degree violent, (which cases are most apt to lay the foundation of stricture) it not only extends throughout the whole of the urethra, but even affects the mucous membrane of the bladder, producing an alarming and very painful affection.

Inflammation then, in whatever way induced, is liable if in any degree violent to lay the foundation of stricture. This though ever so small in the commencement, may progress till the canal of the urethra is nearly obliterated.— What occasions their increase, is not in our power to determine ; (except from slight inflammations now and then induced, from various causes) we simply know the fact, that a comparatively slight inflammation, has laid the foundation of a stricture, and in a case of this kind which we have recently cured, it was about twenty years after the infection was contracted, before the symptoms became so urgent as to induce the patient to apply for relief. From the account which this gentleman gave of the treatment of the Gonorrhæa, it appears to have been very injudicious ; having used as an injection which excited so much inflammation, that a complete tube of coagulating lymph of nearly the whole extent of the urethra, was in a few days thrown off, at the same time a bougie was frequently introduced. This mode of treating a Gonorrhæa is too palpably absurd to require any refutation, but there is another which is much more common, and we believe very general, which likewise very frequently occasions stricture; whch is the free use of saturnine or lead injections. We are not exactly prepared to give an explanation of the fact, but we believe our own observation warrants us in saying, that saturnine or lead injections more frequently are followed with strictures than those used with a base of zinc.

Strictures are sometimes several inches in extent, at other times there is only a small point or callosity, and in some we find a small hardened cord placed across the urethra. These appearances were well described by the ingenious and original John Hunter, but his explanation of the cause of them was not perhaps altogether legitimate or correct. He believed that the urethra was muscular and that from the contraction of a fibre or a fasciculus of fibres were produced all the varieties of strictures; some of which he resembled to a thread tied round the canal, others of a larger size to a riband, &c.—Mr. Home does not appear to us to have been more successful than his brother-in-law, John Hunter, in his investigations into this part of the subject, as he seems to have adopted the same opinion. Mr. Charles Bell, whose work we purpose to examine, has disregarded published authorities and had recourse to the best of all guides, anatomical investigation, and has deduced a very different inference, and in our belief a very correct one, which, is, that the urethra is not muscular. He says, p. 102.

'I take my ground on the basis of morbid anatomy. Wherever this 'has been steadily adhered to as the foundation of observation and reasoning in our science, that science has been progressive: It has been 'interrupted in its course, even amidst the most brilliant reputation of 'its professors, wherever men have arisen whose inventive powers 'have led them to reject, rather than to seek, the aid of atamony.—'In perusing books on this subject of stricture in the urethra, you will 'have particular occasion to observe, that ignorance of the appearance 'of disease kept surgeons for a long time undecided and wavering in 'their opinions, and feeble and inefficient in their practice; while Mr. 'Hunter, by establishing one distinct fact, regarding the nature of this 'very common complaint, did infinitely more good than even by the hint 'of practice which he left in legacy to the profession: or than has been 'done by all the authors before or since his time.'

Mr. B. wishing still further to establish the important fact, instituted a number of well directed experiments upon the urethra in a sound state; the results of which were likewise very conclusive. He first introduced a small ivory ball with a thread attached to it, several inches down the urethra, and found that it could not be expelled with the greatest efforts of which the man was capable, though it was removed with the greatest facility by the thread. He then filled the urethra for five inches with a fluid through a glass tube; the urethra was then compressed and the tube elevated so as to distend it. The height of the fluid in the tube was not the least altered by an exertion of the person on whom the experiment was made, but a very slight touch of the distended urethra occasioned an immediate rise in it. He observes p. 107, 108, 109.

'I made the following simple experiment, in order to put this to the 'test. I got a small ivory ball, to which I attached a thread. I introduced the ball into the urethra; I made the man endeavour all he 'could to push it out, but he could not; neither was it retained in the 'slightest degree when pulled by the thread. I thought it might be 'more satisfactory if I imbued the ball with something stimulating; 'I tried coarse soap and spirits; but still there was no power in the 'urethra to retain the ball, or to push it forth. This could be done 'only by the urine behind it, and the operation, of the bladder, or the 'ejaculator seminis. I need not add that this experiment was made 'upon a part of the urethra, anterior to the seat of the ejaculator seminis. In the course of practice, I find that, when the silver ball is 'introduced down to the ejaculator seminis, it is resisted by the muscle, especially when the parts are irritable. I find it sometimes thrown 'out of the grasp of the muscle, but when pushed fairly into the sinus 'of the urethra, which is into the middle of the muscle, the ball is allowed to remain.

'I wished also to have the fact of the action of the urethra on fluid 'before you. This was easily done. I employed a glass tube to throw 'an injection into the urethra, the extremity of the tube being adapted to pass into the extremity of the urethra. Pressure was made on 'the urethra five inches down. By elevating the tube or column, in 'the manner of the mercurial injecting apparatus, the fluid distended 'the urethra: but no irregularity in the height of the fluid in the tube 'indicated any muscular power in the urethra to discharge its contents. When the urethra was distended, the slightest touch upon it 'with the finger elevated the fluid in the tube; but no effort of the patient produced the effect. When he made the effort it was with the 'ejaculator seminis behind the part of the urethra compressed by the 'fingers.

'Here is a simple detail of facts, which are in themselves conclusive 'on this point, viz. that the part of the canal anterior to the muscles 'which surround it has no muscular power. If we examine the struc'ture of the canal of the urethra anatomically, we shall be irresistibly 'led to the conclusion that it is merely elastic; and that where muscular 'action is required there are superadded muscular fibres embracing the 'proper canal. I have carefully examined the membrane of the u'rethra through its whole extent. I find it very thin and delicate; but 'I see no appearance of muscular fibres transverse or longitudinal. I 'have examined, by dissention, the part of the urethra in the neigh'bourhood of stricture; but in circumstances of long continued irrita'tion, and where the muscular coat of the bladder was greatly increas'ed in strength, I have not found a corresponding change on the ure'thra. Mr. Chevalier imagines, that in cases where there has been 'much irritation from blisters preceding death, the muscularity of the 'urethra has become evident. Although there are few whose opinion 'would influence me more than this gentleman, yet I can see nothing 'in his preparation but the effect of corrugation; a semblance of fi'bres which would disappear on stretching the canal. At most, what 'are seen on dissection are but fibres; and in the simplest membrane, 'as in the peritoneum, fibres are always to be seen on minute inspec'tion, where nevertheless there is no muscular power.'

The non-muscularity of the urethra being now well established, we are better prepared to examine the effects of inflammation upon it, and deduce a cure founded on the basis of anatomy. Our author begins by giving in a summary way an account of the different states or varieties of strictures; as the simple stricture, stricture from inflamed lacunae, stricture near the orifice of the urethra and visible, dilatable stricture, spasmodic stricture, and stricture with stone in the urethra. The place of stricture and the part of the urethra which is most apt to be inflamed, we think Mr. Bell has happily described. In some instances he believes a stricture may exist near the extremity of the penis, where the gonorrhæal inflammation first attacks, and is frequently the most violent, at the curve of the penis where it hangs from the pubes, about the bulb, or in the membranous part of the canal. He says, p. 28.

'When seated midway in the urethra, and at the part where the 'penis hangs down, the stricture often extends only to one half of the 'canal, which of course is the lower half. The cause of stricture

'being so frequent near the bulb is, that this is really the most sensi-
'ble part of the whole canal. It possesses a peculiar sensibility, to
'govern the action of the muscles seated there, and this sensibility
'gives rise to inflammation and to morbid irritability of the surround-
'ing muscles.

'I have not had an opportunity of examining the urethra by dissec-
'tion, where I was certain that there had been a recent gonorrhœa;
'but in the subjects of the dissecting room, I have seen inflammation
'of the urethra near the extremity of the penis and inflammation also
'near the neck of the bladder and at the bulb, while there was no
'unusual appearance in the intermediate part of the canal. This
'fact, in combination with the circumstances of practice, induces me
'to believe that there is a direct consent betwixt the two extremities
'of the urethra, and that they sympathize in disease; that irritation
'in the fore part of the canal is quickly conveyed to the bulb and
'neck of the bladder, just as inflammation seated near the neck of the
'bladder will give the sensation of pain in the part of the urethra be-
'hind the glands.'

Mr. Bell we think with great propriety retains the term callosity, as expressive of that degenerated state of the urethra in strictures, where they frequently approach to a state of cartilaginous hardness. All strictures do not give this idea upon the introduction of a bougie, it is confined to those commonly of a small extent, or where there is as it where, a small nodule of coagulating lymph deposited, so that it seems like a little button, as the bougie slips over it. When the hardened or degenerated state of the canal extends over a greater space, it is not so readily discoverable by the bougie, though dissection shows it to be essentially the same in its nature. Mr. Home is of opinion that in long callosities there have been two strictures, and that the intermediate portion of the canal in consequence of the absence of urine, contracts very much in size. This perhaps is not quite correct, for we find upon dissection where the bladder has been punctured and the urine discharged a long time through the wound, that the urethra anterior to the total destruction has remained in a perfectly natural state.

'It is evident, therefore, that the mere cessation of the usual dis-
'tension of the urethra will not be followed by stricture or permanent
'contraction of the canal. These callosities, or long strictures, are
'always irregular; and this irregularity cannot be accounted for on

'the supposition that the canal at this part has become rigid for want 'of the usual distention of the urine. I entertain no doubt that these 'contractions of the urethra, which extend to a considerable length of 'the canal, are produced by more severe attacks of inflammation than 'those which produce the common stricture. This sort of callosity 'of the canal differs from the more common stricture in this, that in 'consequence of the spongy body, which surrounds the canal of the 'urethra, often partaking of the effect of the inflammation, the cells 'are obliterated; and what was loose, spongy and dilatable has be'come condensed and rigid. This undilatable condition of the urethra, 'when examined by the bougie, or probe, gives the sensation of great 'irregularity; the point is interrupted, and feels as if it were moving 'over eminences on alternate sides of the canal. When the ball 'probe, or urethra sound, is introduced through the anterior part of the 'stricture there is difficulty in pushing it down, and a slight impediment 'is felt in retracting it. p. 30, 31, 32.'

The canal of the urethra is not only diminished in width to several inches in extent, and very rigid, but sometimes has the spongy substance nearly obliterated all around it. This state of the spongy part of the urethra must be occasioned by the inflammation gluing together the cells, as takes place, though only in a small and temporary degree, in a chordee.

When a stricture is so complete as to occasion retention, of urine, and particularly when it has been gradually increasing, the urethra between it and the bladder, will be found very much dilated, and distended with urine, which can be easily discovered by the fluctuation. This fact deserves to be recollected, inasmuch as we may take advantage of it in our practice and relieve the distention of the bladder by simply passing a lancet into it through the perineum. This we have known done several times by Mr. Astley Cooper of London, and the bladder completely emptied. After which means were used to remove the stricture, and the patient saved from the dangerous operation of Paracentesis Vesicæ.

Inflammation supervening upon a stricture if not followed by retention of urine, will sometimes extend itself to the bladder, and produce a train of very distressing symptoms. If retention take place and the urine be not evacuated, inflammation comes on, which terminates in gangrene, and an opening discharges the urine into the cavity of the pelvis and abdomen. We do not believe the accounts given by some of the bladder being ruptured by the over-distention, but that at some point it must be disorganised before the rupture takes place. The bladder too from stricture becomes very much thickened, especially if it be of long continuance, which no doubt is occasioned by the violent efforts that are made to expel the urine, increasing its muscular power.

Our author has demonstrated by dissection that inflammation is frequently found in the urethra above a stricture, and rarely if ever below; which enables us very readily to explain the uniform occurrence of fistulæ in perineo posterior to the stricture. A fistulæ in perineo, may be occasioned by the lacunæ being distended with matter and bursting outwardly in the perineo, or giving way in consequence of the frequent regurgitations of urine into them; the urine is then extravasated in the surrounding cellular substance, abscess takes place, and the fistulæ is formed. The latter is much the most frequent cause.

Strictures give rise to enlargements of the prostate, to ulceration of it, and to the formation of fistulæ in its substance, which Mr. B. thinks are of the worst kind. The natural ducts of this gland in his opinion are sometimes so much enlarged as to receive the end of the largest bougie, and by ulceration from fistulæ. The catalogue of mischiefs is not yet complete. They occasion a great enlargement and inflammation of the ureters. "I have seen them" says Mr. B. "as large as a small intestine, and much inflamed.

The kidneys next suffer:- this may be inflammation, ulceration and complete absorption of one of them. Effusion has taken place upon the surface of the brain, and lastly they give rise to herniæ.

Mr. Bell after describing the varieties of strictures and their effects, devotes his second and third letters to the consideration of the dilatable and spasmodic structures. The dilatable stricture of our author is what we generally understand as the permanent; the latter of which term we consider much the most appropriate. If the urethra be to any considerable extent in a state of callosity, we conceive it to have lost all its pliancy and elasticity and to possess very little dilatability. In general we think when a bougie can be introduced, though of ever so small a size, the stricture may be cured by gradually increasing it, but we do not believe it cures it by dilating or stretching the urethra, but by mechanically or by pressure promoting an absorption of the most projecting parts of the canal. We recollect to have heard a very eminent teacher of Surgery in London describe a stricture of the urethra, where a full size bougie could be readily introduced, but the patient was unable to pass his urine, in consequence of the closely collapsed state of it. He called it an elastic stricture but observed that it was a curious anomaly, and that it was not to be cured either by the common or caustic bougie.

In the permanent stricture the first symptom that occurs, is a more frequent inclination to make water, the patient contrary to his usual habits being obliged to rise several times in the course of a night; this will continue for some considerable time before any other change is observed. Then the stream of urine which before was round, is observed to be broad and flat, and after this it will be forked or split; which last appearance commonly alarms him. The urine is commonly clear and natural in the early stage of strictures, but after they have lasted for some time it will be more or less milky or of a whey colour, in consequence of the inflammation extending to the mucous membrane of the bladder.

It appears to us from what Mr. Bell has said of the dilatable stricture, that it is only the early or beginning state of the permanent stricture before the gonorrhæal inflammation has altogether subsided; indeed he says some of his patients, (from whom he drew the character of the dilatable stricture) imagined that they had got a recent gonorrhœa. We quote his own words.

'The account which the patient gives of himself is nearly this:—
'That, some time before, he had a severe gonorrhœa; that being
'particularly circumstanced, he could not so well observe the direc-

'tions of his medical attendant as perhaps the case required: that the 'disease continued long severe, and he doubts even now whether he 'be entirely well: for he has observed that, although the discharge 'sometimes disappears and he is free from any uneasiness, yet occa'sionally the symptoms return; at which time he has been sensible of 'a fullness in the perinæum, while, even during the absense of the 'discharge, there is still a heat of urine, and he has imagined a diminu'tion of the stream of urine; that of late the call to make urine has 'become frequent, and he does not see what a young fellow has to do 'rising three times in the night to make water; and that whenever he 'exceeds in wine, or takes unusual exercise, or has connexion with 'women, the symptoms increase with a considerable discharge from the 'urethra.

'Sometimes a patient comes to us with this complaint, imagining 'that he has got a recent gonorrhœa; but, although there be discharge 'from the urethra, there is no readiness or swelling of the lips of the 'urethra, or inflammation of the glans or prepuse (*la gonorrhee habi'tuelle benigne.*)

'When the urethra thus affected is examined by the bougie, it is 'found to be unusually sensible; and when we carry the bougie down 'to the stricture, there is severe pain, and the patient shrinks from the 'hand. If he allows us to persist, we shall be sensible of resistance to 'the point of the bougie; and if we force the instrument on, we shall 'feel it grasped as by a common stricture. p. 62, 63, 64.'

Our opinion we think is further strengthened by the following.

'This state of the urethra differs from that of proper stricture, in 'being less rigid and firm. If, after examining a patient, whose ure'thra is in this state, you call the disease, stricture, and he happens to 'consult another surgeon, he will be told that it is no stricture, and 'to prove this, one of the largest bougies is passed with exultation!— 'But this dilatation is not a cure of the disease; on the contrary, every 'unpleasant symptom is often aggravated by the violence which has 'been used. p. 65.'

Mr. Bell states that the symptoms which he lays down as characteristic of dilatable stricture may and do remain a long time without seemingly undergoing any material change. He states the instance of a young gentleman who had these symptoms for eighteen months before he applied for assistance. The progress of a stricture as we have already remarked, is commonly slow, but when once the foundation is laid, it rarely we believe is otherwise than in a state to give a great deal of trouble and distress at some period of life, though it may be twenty or thirty years afterwards. It commonly happens that several strictures will be found in the urethra at the same time, and one generally will be much the most rigid and firm, and this it is which has been of the longest standing.

'When, however, the complaint is of long standing, there are often 'several parts of the canal inflamed; *perhaps one of these spots gives proof* '*of an unelastic and confirmed stricture having been formed.* I have 'found a dilatable stricture deep in the urethra, and near the bladder, 'while there was a confirmed cartilaginous stricture near the extremity of the urethra. Indeed, when there are two or three strictures in 'the urethra, we are sure to find some of them more dilatable than the 'others. The original and first formed stricture is firm, and the resistance it gives is abrupt; while the others partake more of the nature of the disease which I have here described. On one occasion, I 'found several parts of the canal inflamed, contracted and unnaturally 'sensible; after the lapse of nearly a year, I found the anterior of 'these spots of the urethra confirmed into a rigid stricture, having lost 'that elasticity which enabled me by gentle and continued pressure to 'dilate it. p. 67, 68.'

To ascertain the form of the stricture some have been in the habit of introducing a soft wax bougie, as if a knowledge of the shape and length of it would at all expedite the cure. Mr. Bell considers it essential to be acquainted not only with the form of the stricture, but with the number, and for this purpose has invented a new instrument, which he calls the urethra sound or ball probe. This he says will not only enable us to determine the form and number of the strictures, but it has an evident advantage in not occasioning so much irritation and thereby not followed so often by faintness or that "indescribable nervous sensation which is so apt to creep over a person on the first introduction of a bougie."—Insomuch that Mr. B. states patients have often begged him to introduce them previous to the bougie. This is a pretty little instrument contrived by a very minute Anatomist, for a very minute purpose. But we must confess we never have been able to see the utility of introducing any instrument, (not even the soft wax bougie) with a view to see the shape of the stricture impressed upon the end of it. If a patient labours under symptoms of stricture, we must pass a bougie of the common kind, and if it be too large to pass the stricture, a smaller must be used, but if the smallest will not pass, there is only one alternative, which is to apply the caustic bougie. This case is often realized in practice ; why then should we be solicitous to know the shape, extent, and number of strictures that may exist : if one of this kind is discovered, that must be removed first, and then the others in succession. If the urethra have lost its elasticity in that part where the stricture is situated, and in proportion to the duration of it more or less obliterated, in the same ratio will be the difficulty of passing any thing beyond it. Mr. Bell speaks of the inflammation and " exquisite sensibility of the canal at particular points and especially behind the strictures," which he is able to discover by the use of the ball probes. We have seen Mr. B. in his lectures go through the manual or exercise with the ball probes, but we must confess we were never so much pleased with the evolutions as to enlist in the service. His discovery of the exquisite sensibility of the urethra at particular points, and especially behind a stricture, is what we should always expect to find, if we were to exert the same force in passing them, which we have seen used by their admirers.

When the smallest cat-gut or common bougie can be made to pass through the stricture, an easy and effectual cure may generally be made. It is not the occasional introduction of a bougie of a larger and larger size, for a few weeks that will answer the purpose, but the daily use of it, and for months together. The caustic or armed bougie ought never to be used in these cases till after a long and faithful trial has been given to the common, and we believe it will be rarely if ever necessary to use the caustic, except in those cases where the smallest common bougie cannot be passed ; or where the surrounding muscles are spasmodically affected, forming the spasmodic stricture. In such cases we have no hesitation in using it, and should the common one be unsuccessful after preserving in its use for a long time, and the patient anxious to be relieved, and willing, the caustic may be applied. But we ought always in these cases to state to the patient the unpleasant consequences which sometimes follow the use of the caustic, and rather urge them to persevere in the use of the common a little longer. We regard the introduction of the caustic bougie as a valuable acquisition to the practice of Surgery. But we fear, and indeed we know, some are too much in the habit of using the caustic where the common would answer every purpose. The indiscriminate use of the armed bougie to every stricture where the largest bougie is arrested, as recommended by Dr. Andrews,* appears to us so unqualified and unwarranted, that it cannot be too severely censured. We have seen the caustic frequently used with the best effects, at other times though it has removed the stricture, an abscess has formed in the perineum, attended with an erysipelatous affection of the scrotum and penis, great tumefaction, and sloughing of the integuments of the penis, which had nearly cost the patient his life.

Before the caustic is used, introduce the common bougie down to the stricture for the space of a quarter to half a minute; this dilates the urethra, and makes the caustic follow on with much more ease, and prevents the sound part of the urethra from being injured by it. Too much care cannot be taken to prevent the other parts of the urethra from being affected with the caustic, and for this purpose when the common bougie is in contact with the stricture it ought to be marked with the nail, so that the exact distance of the stricture from the orifice of the urethra may be transferred to the caustic, in order to make us entirely satisfied that our caustic has gone right. The edges of the armed bougie ought to be pared off, so as to lay the caustic bare, and when oiled it ought to have the curve of the catheter given it; this ought to be attended to as it very much facilitates the introduction of all bougies.

There will also be less danger of making a false passage by following the course of the canal correctly. False passages are among the evils resulting from the use of the caustic bougie, but he must be very ignorant of the Anatomy of the parts, and inattentive to the course of the bougie, who occasions such dreadful havoc as we have sometimes witnessed. We recollect to have seen in Mr. Bell's valuable collection of morbid preparations a specimen in which the caustic had made a false passage down into the scrotum, between the testes. The irritation and suppuration which it occasioned, if we are not mistaken, caused the man's death.

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* See Observations on the Application of Lunar Caustic to Strictures in the urethra and Œsophagus.—By R. W. Andrews M. D. &c.

When the caustic is first introduced it only ought to touch the stricture, and be withdrawn immediately. After using it a few days in this way, it may remain in contact with the stricture till the patient feels a little heat, which will be from one to two seconds, and never should remain longer than half a minute. It ought at first to be introduced every other day, and if no unpleasant symptoms arise it may be repeated every day. A few applications of the caustic will sometimes remove extensive and long standing strictures, while at other times they require months before they are removed, though at first they seemed but trifling. We have known a stricture situated within an inch of the neck of the bladder, which had been attended with incontinence of urine for more than twelve months, entirely cured by twenty five applications of the caustic. From the sloughs which came away upon the caustic every second and third day, about half an inch of the urethra must have been restored. Almost every application of the caustic occasioned in this man a severe ague, but he was encouraged to persevere in hopes of being relieved of what rendered life a burden (the incontinence of urine) which he happily realized.

Mr. Bell made a comparative trial of the effects of the alkaline and lunar caustic, not only in the urethra of several persons, but upon his own arms. From these experiments he is decidedly in favour of the argentum nitratum, in all cases of stricture, as by far the most effectual remedy. He tried the kali purum as recommended by Mr. Whateley, and found as he states that it very much lessened the sensibility of the urethra, but by mixing with the mucous of the urethra it formed a kind of soap, and did not act upon the solid stricture.

'Further experience, however, of the effects of this alkaline caus-

'tic did not accord with my first success. I found that, wherever 'there was a confirmed and hard stricture, its application was little 'more than innocent. I found that, after frequent applications, al'though the urgent symptoms were kept under, yet the stricture was 'not destroyed; that, after repeated applications of this caustic, on 'introducing a soft bougie into the canal, the indentation upon it shew'ed the stricture to have preserved its firmness; I may even say, its 'sharpness. After several applications of the caustic in Mr. Whately's 'manner, I have found on dissection no trace of its operation on the 'stricture.

'On revolving these circumstances in my mind, and particularly 'considering that this caustic took off the sensibility from the canal 'which is touched, and thereby diminished the irritability of the parts 'but did not destroy the stricture, I set about a comparitive trial of 'the effects of the two caustics, the *kali purum*, and the *argentum* '*nitratum*.

'I found that, although the alkaline caustic was particularly strong 'when applied to a living surface, and its influence confined to that 'surface, yet, when a small portion of it was inserted into the end of 'a bougie, it became, even during that operation, moist and soft by 'by the absorption from the atmosphere; and that, further when the 'point of the bougie, thus loaded, was dipt in oil, or covered with 'soap, the caustic was rendered mild; and, by the time it was carried 'through the urethra to the stricture, it was little else than a liquid 'soap with a large proportion of alkali.' p. 85, 86, 87.

In the third and last letter we think Mr. Bell has more completely developed the nature of the spasmodic stricture than we recollect to have met with before in any work on the subject. With his attention steadily directed to the foundation of all correct surgical reasoning, he proves to our complete satisfaction the non-muscularity of the urethra, as we have already observed.

We often hear of spasmodic strictures and spasmodic obstructions in strictures, as if the urethra even though muscular could contract upon a bougie at that part where the stricture is situated. If a stricture exist, the urethra at that part as we have already stated must have lost its elasticity and be in a state of callosity, and of course cannot contract and with difficulty is dilated. We do not resort to the contraction of the fibres of the membrane of the urethra, in order to account for strictures, or the difficulty that we sometimes meet with in introducing a catheter or bougie when the urethra is preternaturally sensible. An easier explanation may be given, when we consider that five inches of the urethra is surrounded by strong and powerful muscles and that it is the sensibility of the urethra which very much governs the contraction of these muscles. That part of the canal which is anterior to the muscles, cannot have any power of contraction, and therefore we never experience in this situation any difficulty in passing a catheter or bougie from muscular action. This part of the urethra however as we have already observed is the seat of firm and obstinate strictures.

'In the diseases of the urethra, as in other parts of the body, inflammation precedes or accompanies increased sensibility. Where stricture is, there is much increased sensibility; and wherever the stricture is exquisitely sensible, there we are sure to find the function of the muscles deranged, forming the case which is called spasmodic stricture. This spasm is produced by the acrid urine coming in contact with the sensible surface of the urethra, which being inflamed is not embued with its sheating secretion; instantly the muscles are called into action; the ejaculator seminis contracts by impulse, as is its nature when excited; and the other sphincter fibres contract firmly; so there is frequent call, and frequent stoppage, of the urine, with painful contractions of the fibres on the inflamed and excited parts.—This action of the muscles of the urethra does not merely obstruct mechanically the flow of urine, but by the sympathy existing betwixt these muscles and the *detrusor urinæ*, or muscular coat of the bladder, the contraction of the bladder ceases.

'Thus, out of a party of men drinking together, there will often be one who before evening cannot pass a drop of urine. On inquiry, you will find that he has had slight disorder in the urethra, perhaps the remains of gonorrhæa. It is a mistake to suppose, in such a case, that the fulness of the vessels has closed the passage to the urine; the same cause which has inflamed his countenance adds to the inflammation and sensibility of the urethra, and the first drop of acrid urine is followed by contraction and spasm, and obstruction.

'I trust you will now entertain no doubt that the apparent changes in the stricture of the urethra are attributable to the disorder of the neighbouring muscles, muscles which surround the stricture, if it be seated within five inches of the bladder. But the subject is further worthy of your utmost attention.

'There seems to be no stricture without more or less accompaniment of inflammation. This is the reason why strictures are so seldom stationary; for, being originally produced by inflammation, the conti-

'nuance of inflammation, even in a slight degree, increases the stricture. 'This also explains why a stricture becomes progresssively worse, and 'why it returns after the apparent cure of it by the bougie. p. 133, 4-5.

There is reason to believe that the greatest sensibility of the urethra is posterior to the stricture, but we do not admit that it is confined entirely to this part. The force which Mr. Bell must exert to pass the ball probes beyond any considerable stricture is quite enough in our opinion to make a patient complain not a little of pain when it is effected, and therefore of itself not by any means conclusive. As fistulæ in perineo generally take place posterior to strictures, there no doubt must be the most inflammation and sensibility. This we think has been demonstrated upon inspection, and might be inferred as a consequence of the difficulty which the urine must there meet with the spasmodic stricture then very much depends upon this exquisitely sensible state of the urethra, and to remove which it may be necessary to introduce the caustic bougie. If a common bougie be introduced in a case of this kind, it may pass through the stricture, and then be so closely embraced by the urethra that it will not pass into the bladder, but the caustic by taking off the sensibility of the canal and thereby lessening the irritability of the muscles will enable us to pass a large bougie without pain or difficulty into the bladder. In such cases we think with Mr. B. that it acts as a charm, and to illustrate further its powers of lessening irritation, we quote the following.

'To understand the effect of caustic in subduing irritation in the 'urethra, in cases of the stricture, we may take the following conclu'sive example. If a man has an ulcer in the pellucid cornea of the 'eye, the ulcer keeps up a great deal of inflammation and irritation in 'the whole eye; but if we apply caustic to the bottom and tender 'part of this ulcer, the irritation and inflammation of the eye quickly 'subsides. When we examine the circumstance of this case, we find 'that the ulcer is highly irritable, and that the acrid tears flowing into 'it are a principal cause of the continuance of the disorder. The touch 'of the caustic deadens the surface; then the tears are no longer a 'cause of irritation, and general inflammation and pain therefore sub'side. The effect of the caustic applied to the eye in this manner is 'however only temporary; the surface touched by the caustic is thrown 'off, and exposes a sensible granulating surface; the tears now hav-

'ing access to this new surface, the pain and irritations return in a 'certain degree : a touch of the caustic again destroys the sensible 'surface, and, before it be again exposed, the hollow of the ulcer is 'nearly filled up, and a healthy or a more natural state of the part is 'substituted for the eating sore. Several such gentle applications 'of the caustic do not prevent the ulcer from filling, and a cicatrix at 'length forming.

'The application of the caustic to the urethra has an effect very 'similar to this. This stricture is exquisitely sensible. and, when the 'urine comes in contact with it, there is such an excitement as is ne'cessarily attended with spasm. The first effect of the caustic is to 'destroy the sensibility, and then the urine passes without exciting 'spasm. In explanation of the circumstance that the caustic has not 'always this effect of subduing spasm and irritability, let me observe 'to you, what is too little attended to, but which I have no doubt you 'will at once allow to be just ; that, if only the fore part of the stric'ture is touched by the caustic, the principal source of irritation re'maining behind the stricture, the patient will find no relief. You 'may perhaps say that the caustic is in no instance applied to the back 'of the stricture, and that still the irritation is subdued. I have lit'tle hesitation in answering, that often the caustic does more than the 'surgeon intends, and that by dissolving and flowing through the stric'ture it diminishes the sensibility of the surface in the whole extent of 'the disease. p. 139, 140, 141.

We have often heard Mr. Bell accused of writing too much, but we do not presume to give an opinion on this point. The little volume before us is far from being destitute of merit ; in fact we conceive it entitled to a rank among the first practical works on the subject. It will not, we are aware, supercede the more extensive one of Mr. Home ; but the practical illustrations which it contains, founded as they are upon the basis of Anatomy, will always, we conceive, be appealed to as rules of practice. We are happy to find that it has received an American dress, and from its cheapness, will be likely to have an extensive circulation, among those, who perhaps, only have heard of the more extensive work of Mr. Home.

ESSAYS AND CASES.

I.

Memoir on Uterine Hæmorrhage, by William Moore, M. D. *President of the Medical Society of the county of New-York.*

Read before the Medical Society, October 4, 1813.

No disease to which women are liable, excites greater alarm, or is attended with more danger, than an hæmorrhage from the Uterus, when it occurs during the latter months of pregnancy, and is so profuse as to be styled a *flooding.* But it has been found from experience, that all such cases of flooding, although apparently similar at their commencement, are not in reality equally dangerous ; for in some, even when left entirely to nature, or only treated by palliative remedies, the flooding abates as soon as labour pains commence, and the patients are happily delivered by the efforts of nature ; while in others, every contraction of the Uterus, and the slightest labour pains increase the flooding to such a degree, that the patients will inevitably die undelivered, unless timely assistance be afforded by art.

This being the case, it therefore becomes of the utmost importance in the treatment of this disease, to be possessed of some *practical criterion*, by which we may determine early, in every case that occurs, whether it be of that kind, which may be safely trusted to palliative remedies and the efforts of nature ; or whether it will ultimately require the assistance of art. In the one case we shall be induced not to interfere where it is unnecessary ; while in the other, it will become our duty to deliver the patient as soon as it can conveniently be effected, and before she is so far exhausted by loss of blood, as to render the assistance of art unavailing.

A criterion of this kind was attempted to be established some years ago by Mr. Rigby, a surgeon of eminence in England, in a pamphlet which he published upon uterine hæmorrhage. And I think the attempt was not without success; for, ever since having read his essays, I have practised upon his plan, with much satisfaction to myself, and, I trust, with advantage to my patients.

Mr. Rigby divides all floodings, that occur in the latter months of pregnancy, into *accidental* and *unavoidable.*

Accidental floodings are such as happen when the placenta has been attached to any other part of the uterus than over its mouth; unavoidable floodings occur when any part of the placenta is over the mouth of the womb. And he asserts, that all accidental floodings may be safely trusted to palliative remedies and the efforts of nature, while every case of unavoidable flooding will require delivery by art.

The criterion in question, therefore, which is to regulate our practice, is, to ascertain, as early as possible, *whether or not any part of the placenta be over the mouth of the womb.*

It is to be observed, however, that in the commencement of every case of flooding, whether accidental or unavoidable, the palliative remedies are to be employed with equal assiduity; but in the latter case, they are not to be solely confided in after the os internum is so far relaxed as to admit the hand into the womb, and delivery by art becomes practicable.

The remedies, which Mr. Rigby calls palliative, are those generally employed to restrain uterine hæmorrhage; such as, strict rest of body, composure of mind, a hard bed, light covering, fresh cool air, cold applied to the external parts and within the vagina by means of cold water and ice, anodynes, astringents, &c. but more especially the *rupturing of the membranes.* Upon this he lays great stress, and recommends it to be performed as soon as it can be effected, after it has been ascertained that the membranes alone are covering the os internum. This, by suffering the waters to escape, produces a contraction of the uterus, which diminishes the mouths of the bleeding vessels, and presses them firmly against the body of the fœtus, and thus moderates the flooding, and sometimes suppresses it altogether; while the accession of labour pains is thereby hastened, and the woman is safely delivered by their means.

With respect to bloodletting, as a remedy in uterine hæmorrhage, we may observe, that, as no flooding of consequence can happen in the latter months of pregnancy, but what must proceed from a partial or total detachment of the placenta, it is evident that the hæmorrhage in these instances will be of the passive kind; and that, therefore, bleeding cannot be a proper remedy where the flooding is at all alarming, or has continued for any length of time. But, at the commencement of the complaint, where the discharge is moderate, if we shall judge from the strength of the patient's pulse, her florid countenance, and other marks of plethora, that she will bear the loss of more blood with advantage, it will be best to take it from her arm, and to endeavour, by every means in our power, to stop the discharge of blood from the uterus as soon as possible.

Some practitioners lay great stress upon plugging the vagina with lint, tow, rags, &c. so firmly as to prevent the egress of blood, which accumulating and coagulating about the mouth of the womb may tend to suppress the hæmorrhage. This is, no doubt, a very proper remedy, and under some circumstances may be productive of the happiest effect;—but, whenever the flooding, by its frequent recurrence, or profusion, becomes in the least alarming, our first care should be, to ascertain precisely by what part the mouth of the womb is covered. This can only be done by introducing the hand fully into the vagina, so as to get one or more fingers within the os internum.

If the head shall be found to present with nothing interposed between it and the fingers except the membranes, they must be ruptured as soon as they are sufficiently tense, and the delivery may then be safely trusted to nature; but if the placenta shall be found covering the mouth of the womb, and this is sufficiently relaxed to suffer the hand to pass with ease, whatever part of the child presents, it will be best to deliver the patient as speedily as possible, by passing the hand through the placenta and membranes, turning the child, and bringing down one or both feet.—Here I must take occasion to remark, that I am never very solicitous to find both feet when one is readily come at, since I am persuaded that we are quite as likely to save the child when delivered by one foot, as by both feet brought down together

Whenever it has been ascertained that the placenta presents, but that the os internum is still so thick and rigid as not to suffer the hand to pass into the womb without using great violence, it will be proper to postpone the delivery until the parts are somewhat more relaxed, which they very soon will be, if the flooding continue. In a case of this kind, plugging the vagina firmly, so as to prevent the escape of blood, may produce the happiest effect; for by accumulating the blood in the vagina and about the mouth of the womb, it will tend to soften these parts, and thus hasten the period when the delivery may be effected with ease. And, it will always be found that the sooner the delivery is effected after it can be done with tolerable ease, the better it will be for both mother and child.

After we have once assured ourselves that the placenta is attached to the mouth of the womb, if it shall be thought proper to postpone the delivery, the patient ought to be watched with the strictest attention; and, even though the flooding should cease entirely, she ought never to be left in a situation where assistance may not be immediately had when it becomes necessary; for it is most certain that the flooding will return whenever the womb shall begin to contract; and sometimes it recurs with such violence, that the delay of a few minutes may be productive of the most fatal consequences.

Before I conclude this paper, I must request permission of the society to detail to them the result of my own experience in this disease, since I began to practice upon Mr. Rigby's plan.

Of forty three cases of uterine hæmorrhage, which commenced at different periods during the three last months of pregnancy, twenty-eight were *accidental* and fifteen *unavoidable.* In the accidental cases, twenty-six mothers recovered, and two died; one of them died a few hours after she had produced two fine boys, both of whom did well. They were all delivered by the efforts of nature, except two; in one of these the child was turned and delivered by the feet, partly on account of the flooding, but chiefly on account of the protrusion of the umbilical cord: the mother did well, but the child was dead. In the other case, as the labour was unusually protracted, the delivery was effected by the forceps, and both mother and child did well. Of thirty children brought forth by these twenty-eight mothers (for two of them had twins) sixteen were born alive.

The fate of the fifteen unavoidable cases was more unfortunate; for of these, there were five that proved fatal to both mother and child, three which proved fatal to the mother alone: four which proved fatal to the child alone; and three in which both mother and child did well. They were all delivered by art except two; in both these cases the margin only of the placenta was over the mouth of the womb, and when the membranes were ruptured, the head was immediately forced down into the pelvis by labour pains, which restrained the hæmorrhage, and the patients were happily delivered by their means.

From the above statement of facts, we may draw the following conclusions; first, that of all the flooding cases, which occur in the latter months of pregnancy, about two thirds are accidental, and may be safely trusted to nature, as the mothers generally recover, and a majority of the children are born alive. Secondly, that the other third are unavoidable ones, which prove fatal to about one half the women and children, who are so unfortunate as to be the subjects of them.

I know not whether the practice of others may lead to the same conclusions; and I hope my own will, in future, be productive of a more fortunate result; for, upon reviewing what has past, I think there are some cases on my register, which proved fatal, where the event might possibly have been different, if the patients had been sooner delivered.

II.

Mémoire sur la ligature de l'Epiploon, par M. Pipelet, *From the Mémoires de l'Academie royale de Chirurgie.*

Translated for the New-York Medical Magazine, by
Henry U. Onderdonk, M. D.

The most ancient authors knew that the omentum exposed to the air in a wound of the abdomen, or strangulated in a hernia, would become cold and livid, and would mortify; and that in this condition it was improper to reduce it, without having cut off all that might be altered or corrupted. This rule induced that of making a ligature on the omentum, whose numerous blood-vessels would, without this precaution, yield a profuse and dangerous hæmorrhage. After Galen, who practised tying the omentum with success, all authors to the present time have been forward in recommending it. We cannot deny but that such ligature has been frequently made without inconvenience, but we have also many Observations on its evil consequences.

I am aware that the mere good or bad success of the cases in which the ligature has been employed, or omitted, proves nothing, inasmuch as the event may have depended upon many causes, with which the use or omission of the ligature had no connexion. But if those who have made observations, have attended to several essential circumstances,—such as the condition of the omentum on which the ligature was made, whether it was sound or withered, cold or inflamed, in large or in small quantity; if they have paid attention to the proximity or distance of the parts to which the omentum is attached; if they have well understood the cause of the different disorders which have extended to these parts, by communication of vessels or continuity of membranes;—we cannot reject inferences thus made. On these principles, I propose to examine strictly the facts and doctrines promulgated concerning ligature of the omentum.

The most obvious case is, when the omentum passes out through a narrow wound, in which it is either completely strangulated, or only so much confined that it cannot be reduced without dilating the wound by an incision. Modern surgery teaches us avoid this dilatation if possible, and to leave the omentum in the wound, if no particular circumstance require its reduction. Whilst some direct that we make no ligature upon it, but that (having ascertained that no portion of intestine is enveloped in it) we should cut it off on a level with the skin;—others disapprove of this method, lest the edge of the omentum should return into the abdomen in consequence of the restlessness of the patient, and lest its divided vessels should bleed within that cavity; which would indeed be very dangerous. The portion of omentum strangulated in the wound and exposed to the cold external air, is not long in becoming withered; and when its circulation is checked, which soon happens, I believe there is no risk in cutting it off. I should however prefer using a ligature; it will hasten the falling off of the useless portion; and in the event of a return of the omentum, by the motions of the patient, then it will prevent all communication between the portion that is to slough, and the sound parts. Besides the ligature on a level with the edges of the wound, cannot of itself produce any bad effect, being made externally on a part deprived of heat and life (moovement).

Hiccup and vomiting denote dragging of the stomach by the strangulated omentum. We must not, however, when these come on, decide rashly upon dilating the wound in order to its reduction. M. Louis (le pere) has communicated some judicious remarks on this subject, of which the following is a summary.

A lad eighteen years old, plunged a table-knife into his abdomen, close to the navel on the right side. M. Louis could not visit him until two hours after. A portion of the omentum cold and withered hung out at the wound; the belly was remarkably tense; fever, nausea, and vomiting had already come on. These symptoms, if they had depended on a dragging of the stomach, would have required an enlargement of the wound, in order to reduce the omentum. But from the situation of the wound near the umbilics, the certainty that the displaced portion of omentum was its extremity, and having observed in several other cases, that nausea and vomiting followed wounds of the abdomen without protrusion of the omentum, M. Louis inclined to the opinion that the irritable condition* of the stomach was induced by sympathy with the spasm and irritation of the wounded part, and not by any dragging upon that organ He did not however determine to leave the omentum unreduced on the mere supposition that strangulation was not the cause of these symptoms; he caused his patient to try different positions by which he might ascertain whether the *dragging* had taken place; but a complete extension of the trunk having produced no pain, it was determined to leave the omentum in the wound. This practice is less painful, and does not generally leave the patient exposed to ventral hernia. Bleedings, emollient fomentations, glysters, and a suitable regimen, moderated the symptoms, and forwarded the uniting of the wound, which took place in a short time; the portion of omentum below the ligature having been cut off.

The position which was tried in order to ascertain whether the symptoms arose from a dragging of the stomach, would also assist any manual attempt to reduce the omentum. Paulus Ægineta, in wounds of the abdomen with protrusion of the intestine, recommends, after dilatation of the wound, that the patient incline backwards, if the injury be at the lower part of the abdomen; if at the superior part, that he bend forwards; and when the wound is in the side, that he lean to the opposite side.

The late M. Martin has left an Observation, which shews how attentive we should be to sympathetic symptoms in wounds of the abdomen. A man received a wound in the right hypochondrium, out of which passed a portion of the omentum of the size of the fist, M. Martin returned it; but this reduction, repeated bleedings, and every means proper in such a case, afforded no relief to the vomiting, which was the first symptom after the wound. A hiccup came on the third day; fever increased every night. The eighth day, the symptoms began to abate, and by proper remedies they were all removed, except the hiccup, which was almost constant, and which became more violent as the other symptoms disappeared: it increased so much that the patient was several times in danger of suffocation from the interruption of the respiratory motions. A number of quieting and sedative medicines were tried without success: at length M. Martin, seeing the hopeless condition of his patient, prescribed for him on the evening of the twelfth day, ten grains of camphor for a dose. The man was very restless through the night; the hiccup tormented him till five in the morning, when it began to diminish. At seven he fell asleep, and after some hours of slumber he awoke entirely free from hiccup. If the omentum had been left in the wound, to its charge would doubtless have been laid all the successive symptoms produced by the convulsive irritation of the diaphragm.

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* Agacement, setting on edge—a very expressive term.

The rule most generally adopted in this operation, is to draw out the omentum far enough to see the sound part, for fear of making the ligature too low and on the altered portion. But if we recollect the delicate fabric of the omentum, we shall perceive that this rule cannot be followed in the greater number of cases. We know with how great caution we must handle this membrane, if we wish to succeed in inflating it for anatomical purposes; so readily is it torn: there must be equal risk in drawing it out when the protruded portion is cold and livid. Even then the ligature cannot be applied, without bad consequences, except a little above the portion seen externally. But if the part, which is to be constricted by the ligature, is inflamed, can we expect a favourable event? There would be much less danger, if the ligature were made on a part of the omentum not capable of recovery by the warmth of the intestines. It is perhaps in such cases, that it has succeeded. What most practitioners perform only through necessity, has been prescribed with dogmatical confidence by one of the best surgical authors. Fabricius ab Aquapendente says, when a portion of the omentum protruded through a wound of the abdomen, becomes cold, black or green, that it must be tied just upon the warm portion, and the corrupted portion cut off. I could shew the bad effects of ligature upon the omentum by many facts which I have observed in the hospitals, I shall however only cite the following cases.

I performed the operation on a man thirty five years of age, who had a bubonocele with every symptom of strangulated intestine. The tumour however consisted only of a large portion of omentum, which was of a reddish livid hue. Believing that this considerable mass could not be returned to the abdomen without great danger, I determined to apply a ligature upon it at the level of the ring, and to cut off all below. In spite of every attention, the hiccup and vomiting continued; the pulse became weak, cold sweats broke out, and my patient died in thirty six hours from the operation. It is not probable that the omission of the ligature would have saved this person; but its application could certainly contribute nothing to the relief of the symptoms. On opening the body the omentum was found gangrenous, and the stomach and intestines in a state of inflammation bordering upon mortification.

M. Pouteau (le fils) has sent to the academy a case similar in its event, but in which the evil effects of a ligature were very singular. After having performed the operation for hernia and reduced the intestine, he thought it best to tie the omentum, on account of its great bulk; which would have required too intensive an incision of the ring for its reduction. The patient was immediately relieved from the symptoms of constricted intestine: but he soon complained of pain in his stomach (ventre), and although every assistance was rendered, he died thirty six hours after the operation, of gangrene of the omentum, as was seen on examining the body. The bad effects of ligature were so evident in this case, that M. Pouteau has changed his practice, and with advantage.

The above bad consequences may be attributed to the inflammatory disposition of the omentum, or to the mass of it included in the ligature; there is equal danger when only a small portion is tied, as the following case will shew.

M. Dupont found, after an operation for an entero-epiplocele, a portion of the omentum (a pound in weight according to his estimation) which was beginning to putrefy. He reduced the intestine and retained the omentum in the wound; the patient was doing well, and a large portion of what must have been included in the ligature, had one been applied, returned of its own accord. On the fourteenth day, the suppuration had detached all the dead part, and there only remained at the ring, a piece of the size of a quill, and half an inch long. M. Dupont hoped that this remnant would have healed even with the external cicatrix; but instead of becoming depressed, it gradually projected to the length of two inches and a half.

M. Dupont, on the twenty seventh day, applied a ligature on this little protrusion. Two hours after, the patient had nausea; in four hours, he vomited the drink that had been given him; M. Dupont being called eight hours after the dressing, suspended the use of all food for four and twenty hours, and prescribed for his drink, lemonade (un peu chargée), which was to be given in small quantities at a time. The inclination to vomit ceased in twenty four hours; doubtless because the tied portion of omentum having become withered, this membrane was no longer irritated by the ligature. The disadvantages of a ligature are fully shewn in this case; the portion tied was trifling, and its having remained in the ring for twenty seven days without any inconvenience, proves that it is erroneous to suppose, that the symptoms following a ligature arise, not from constriction, but from the mere presence of the tied portion in the ring or wound.

Authors have expressly recommended returning the omentum after it has been tied, but the ligature will always be dangerous if the membrane be inflamed. We have just seen the disorder produced by tying a small portion which might have been safely cut off. Some experiments which I have made, will confirm what cannot be fully learnt in practice, from our being so limited in the number and variety of our observations.

M. Louis and myself made several experiments upon dogs. Most of them exhibited signs of sensibility when the ligature was tightened, a circumstance which is worthy of note. The omentum being tied,and the portion below being cut off, we returned it into the abdomen, with the precaution mentioned by authors, of shaking the animals a little, in order, as they say, to spread it out over the bowels; as if it could be spread while it is tied together. The strongest dogs seemed to be in pain for two or three days; they did not walk about, and ate little. Some had vomiting for only one day. Those in whom the omentum was left in the wound without ligature, and even those in whom the omentum was rudely handled and afterwards returned without ligature, did not lose their appetite; their ordinary activity seemed but little impaired on the first day, and afterwards they performed all their functions. I am satisfied that the disorders of the former did not arise from dragging of the omentum, nor from its lying in the wound, as this did not occasion them in other cases where it was not tied. To the ligature therefore must all these evils be attributed. It came away usually on the seventh or eighth day; the omentum left protruded without ligature came away in portions, and was not completely cast off till the fifteenth or eighteenth day. I kept all the animals on which I experimented, until the wound was perfectly cicatrised, and they all seemed to continue healthy. I then killed and examined them. The omenta which had not been tied were all found in their natural condition, excepting an adhesion to the peritoneum at the place of the wound; but it was simple adhesion, without hardness or other morbid condition. When the omentum was tied and reduced, the same adhesion to the internal part of the wound took place; but in all these cases, it was found degenerated at the place of ligature, into an indolent callous substance of the size of an egg, or smaller, according to the quantity of omentum tied. This tubercle, which we thought to be merely schirrous, contained within it an abscess, filled with a thick pus of a white or greenish appearance. This was not owing to a peculiar habit in some of the animals, it only followed the use of the ligature, and was observed in *all* whose omenta were tied.—Such are the bad consequences of a ligature; they show themselves very gradually, and when we feel entirely secure as to the event. I would not indeed oppose these experiments to observations which attest perfect cures after the omentum has been tied. Perhaps in such cases the strangulated portion may have been in a favourable condition; its circulation may have been suspended in the portion on which the ligature was applied; and to this the patients may have owed their safety. These cures can only be reconciled to the facts I have adduced, by supposing some such favourable condition; moreover, such success is not sufficiently established by experiment, and the cases of it bear no proportion to those of failure.

M. Recolin has informed me of an operation performed at Montpellier by M. Lamorier.[*] A man aged twenty, had a tumour, apparently a hydrocele, for which M. Lamorier undertook the radical cure. The incision being made, he discovered the omentum filled with hydatids. He applied a ligature as high as possible, and cutting off all below, found it to weigh four ounces and two drams. Although the disposition of this membrane did not appear to render it susceptible of inflammation, the operation was followed by considerable fever, tension of the abdomen, and a suppression of urine, which endangered the life of the patient. Bleedings and narcotics were prescribed, and for several days the patient could void his urine only an hour after taking laudanum; it was attempted to lengthen these periods, but the pain which was felt in the hypogastric region, made a recourse to it immediately necessary. The patient however recovered.

What we have adduced concerning the bad effects of ligature of the omentum, will be sufficient to induce us to reject it as dangerous practice. Many celebrated surgeons have rejected it already. The late M. Gunz and Mr. Sharp recommended unfolding it,so that the corrupted portion might be cut off with scissors, near the sound; and to dry up what remained of the altered portion with essential aromatic oils. Fabricius ab Aquapendente gives a method which must evidently be useless, as the ligature is not made on the sound part of the omentum. The ligature draws together a membrane which should be spread out, floating freely upon the intestines. Celsus does not mention tying the omentum; *we must*, says he, *examine it, and cut off with scissors the part which is unsound, and replace that which is sound.* When the unsound portion extends within the abdomen, this operation is impossible; but a ligature in this case could be of no avail; and we have shewn the danger of drawing the omentum further out to get at the sound portion.

There is often found in hernia, a portion of the omentum not altered in structure, but merely so much enlarged in bulk, that its reduction is impracticable. M. Dupont's case proves that it will afterwards return, at least in part. Why then cut off a part that may be saved? there is danger if we tie it; and the symptoms which follow adhesion of the omentum, shew the necessity of reducing this membrane as completely as possible.

M. Guerin saw in the hospital of La Charité, a large portion of the omentum threatened with gangrene, which had been tied in an operation for hernia. The wound was healed in five weeks, but the patient vomited every mouthful he ate. He was reduced to the necessity of eating in bed, with his thighs and legs bent. This can only be accounted for, by the adhesion of the omentum to the ring, which confined the stomach whenever it was filled with food, and which was relieved by the above posture. This inconvenience may arise from being over anxious to keep the lower extremity flexed after the operation.

M. de le Faye examined the body of a female who had been operated on for hernia several years before; since which she had been in bad health, and her stomach disordered. The omentum adhered to the ring, and the stomach was situated almost perpendicularly, and looked like a very large intestine.

In the memoirs of the society of Edinburgh, is a case somewhat similar, of loathing of food and atrophy, caused by a displacement of the stomach by an omental hernia, which was found to weigh four or five pounds.

These cases shew the necessity of an exact reduction of the omentum, unless the long standing of the hernia gives assurance that no dragging of the stomach will follow.—But when reduction is necessary, if it is also proper to cut off a portion of the sound membrane, shall we dispense with the ligature?

The only object of a ligature is to prevent hemorrhage. M. Caqué asserts, that in nine different operations, he cut off the omentum in the sound part, without using a ligature, and without any accident.

The omentum immediately above the cold and livid portion, is not always free from alteration, although apparently sound; cutting in this will not produce bad consequences. But when the moisture and warmth of the membrane, and the florid colour of the blood in its vessels, shew that circulation has not stopped in the part which is to be cut,—we should retain the divided edge in the ring for one or two days, arrest the bleeding by touching the vessels with spirit of turpentine, and then the reduction may be made without risk. A proper position should be maintained in order to prevent adhesions, which might otherwise occur in spite of the most exact reduction.

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The number of facts which the above memoir contains, illustrative of its important subject, compensates for its prolixity, and even for its contradictions. And although M. Pipelet has not supported his plan either by argument or experience, it is perhaps as deserving of a trial as any other; for surgeons have found such different results of the same methods, that no rule of practice can be grounded upon their authority.

Mr. Pott's practice is thus summed up,(vol 2,p. 133.) "I will not pretend to say, that there never was a dangerous or fatal flux of blood, from the division of the omentum, without ligature ; but I can truly say that I never saw one ; that I have several times cut off portions of it, without tying, and never had trouble from it of any kind, though I have always made the incision in the sound part."

M. Le Dran (p. 99.) when the omentum is protruded in some quantity, or if the quantity be small but adherent, leaves it in the wound, trusting to its spontaneous return.—If the omentum be gangrenous, he makes a ligature on the whole of it, and cuts away the unsound parts.

Mr. Hey, (2d edition) in several cases followed the same methods with Le Dran ; in one case he left the omentum in the wound till a part of it had sloughed, and then gradually compressed it with successive ligatures till it was cast off. He advises, however, to secure the individual vessels, whenever it is found necessary to cut off a part of this membrane.

Mr. B. Bell, (vol. 3, p. 12, Troy edit.) recommends cutting off the altered portion of omentum, and tying any vessel from which the hemorrhage is troublesome.

Mr. C. Bell (vol. 1. p. 380) and Mr. Lawrence (p. 180) follow the same plan.

Mr. A. Cooper also adopts the latter practice. An extract from notes of his lectures taken in 1810, will best explain his ideas. " If a vessel of any size bleed, it is to be secured by a fine ligature ; if the vessel be very small, it may be drawn out a little with the forceps and left to itself. The portion of omentum remaining is not to be entirely returned to the abdomen ; the stricture is to be divided, and the edge of omentum left in the wound, forming a sort of plug to prevent a future descent."

The weight of authority is certainly in favour of tying the separate bleeding vessels. Perhaps it would be advantageous to unite this plan with that of M. Pipelet ; to tie the separate vessels with a single knot, to leave the edge of the omentum in the wound for twenty four hours, and then to remove the ligatures, separate the soft adhesions, and return the omentum. This period is sufficient to establish the adhesive process in the ends of the vessels. The position of the patient should be such, that the new adhesions, which the omentum will form within the abdomen, may occasion no dragging upon the stomach.

III.

Case of Painful Affection of the leg, with the dissection Communicated by Dr. James Gilbert *of New-Haven, in a letter to Valentine Mott, M. D. &c.*

A man 36 years old, received a wound with an axe, in the instep ; beginning over the tendon of the tibialis anticus, where it passes under the annular ligament, and extending about an inch downwards and outwards. There was not much hemorrhage, the wound healed without difficulty, and he thought no more of it.

About six months after, as he was carrying a heavy burden, he felt something give way in the scar. From that time he complained of tenderness in the scar, and pain darting up the leg, which soon became so frequent and severe as to to confine him to his house. At this time (about two years ago) I saw him for the first time, and advised him to apply caustic alkali to the scar, and produce free suppuration. Relief was afforded for some time by this ; but soon after healing the sore, the same symptoms returned. I saw him but seldom as he lived twenty miles from me.

About six months after this, I was called to see him and and directed to come perpared to amputate his leg. I found him confined to bed ; pulse small and weak ; scar exquisitely sensible to the slightest touch ; and spasm darting from it to his neck, producing, while it lasted, appearances similar to those of tetanus ; a confused distress in his head, and a sinking, dying, sensation at his stomach. He thought himself dying the night before, as did also his attendants. Essential oils and a great variety of other stimulants had been applied to his leg, and especially to the scar, without benefit; and he had been kept under full doses of opium and old madeira. I objected to operating partly on account of his debility, and partly to try some further remedies, and to summon a fuller council.

I saw him again in a few days, he had remained much as I left him. It was the unanimous opinion, that he must die unless he had speedy relief, and that we knew of nothing which promised relief, unless the offending part was amputated: something was said about incisions, division of nerves, &c. I amputated so as just to save the flexor tendons of the leg.—The spasm ceased.

On examining the leg after the operation, a subcutaneous nerve (the fibular), from the scar to the place divided by the amputating knife, appeared nearly as large as a goose-quill. The tibialis antica artery was obliterated under the scar, but open above, terminating in a *cul de sac.* Nothing further was unnatural.

The stump, owing partly to want of care, became after a few days, cold as death, œdematous, and tending to gangrene: and was brought to a better state by the most stimulating applications. It was nearly a month before either of the ligatures came away, although the naked artery was tied; such was the want of action. When the stump was nearly healed he had a pneumonic affection, for which he was bled and recovered. Spasm now began in the stump, in the situation of the head of the fibula, with symptoms similar to those before amputation, but not so severe. He walks out, but is unable to attend to his business, and is unhappy. He has taken cicuta, and various narcotics have been applied externally. I had an idea that the nerve might be paralysed with preparations of lead. Would amputation above the knee relieve? would dividing the fibular nerve? the disease appears to me to be allied to tic doloureux.

I am with much regard, your friend, &c.

JAMES GILBERT.

IV.

Case of disease, consequent to a fracture of the skull, by LEWIS HEERMANN, *Esq. Surgeon of the U. S. Naval Hospital, New Orleans.—Communicated in a letter to Valentine Mott, M. D. Professor of Surgery, &c.*

A man named Sheerman was committed to my care on the 25th of December 1810, from the U. S. Frigate President, with chronic rheumatism. He was represented by Dr. Trevet, surgeon of the ship, to have been subject to a variety of diseases; so that he was considerably reduced, but at present in better health than he had commonly enjoyed. He continued under my care until the 19th. of February, with little alteration, when, in the evening, he was attacked with chills, succeeded by slight fever and a most severe headach. He took a mercurial cathartic, but on the following day, though free from fever, he was not at all relieved, from the headach, which he described by saying—" his scull cap he believed would fly off, and leave the rest of his head behind;" his pulse was small and trembling; a blister was therefore applied to the neck, and a saline cathartic prescribed. But the debility so much increased, that it was thought prudent to postpone the exhibition of it, until an alteration of symptoms should justify the continuation of purgative medicines; he was directed to take the aqua ammoniæ acetatæ. In the evening he had another and scarcely perceptible chill; and he continued to complain of an almost constant recurrence of them on the third day. His restlessness very much increased, he was occasionally delirious, had a constant grating of his teeth, and his eyes were morbidly sensible to the light. The blister not having drawn well, it was repeated. For a short space of time the spasmodic symptoms were suspended, and the mental faculties appeared to be recalled to a regular exercise of their functions. His debility however evidently increased, and he relapsed into a delirium, which ended in perfect coma. In this state of suspended sensation and volition he continued, without the possibility of rousing him, for eight days, whilst his skin at the same time was loaded with the most profuse perspiration, and his stools which were procured only by purgatives were voided involuntarily. This general torpor, and the insensibility of the retina to a strong light, manifested by dilated pupils, and an absence during the first 5 or 6 days, of every other morbid symptom, as learned from the tongue, the temperature of the skin, the fullness, frequency, or resistance of the pulse,—induced me to believe than an effusion was going on upon the brain. And coupling these anomalous occurrences, with a fracture of the os frontis, he had received two years before this time, which had rendered him subject to epileptic fits ever since, and a gnashing of the teeth when asleep,—I was induced farther to believe, that some organic disease might have laid the foundation of his present illness ; and that it was excited by several days indulgence in ardent spirits, from which for a long time previously he had entirely abstained, having found that it always distressed his head. I suggested my ideas and the reasons on which they were founded, to some of my medical friends, and concluded to have trephined him at the fracture, if a concurrence of opinion on their part had justified it. They unanimously consented to the possibility of the existence of spiculæ of bone, that might have produced irritation and its consequences : but at the same time recommended me, to consider whether all these symptoms might not be produced by morbid action only, and to treat the case medicinally, rather than to stake my character by performing an operation on such doubtful grounds.

Purgatives chiefly, and mercurial inunction were therefore persevered in, and in addition to the employment of calomel, which was rubbed into his gums, antispasmodics, wine, and cordials, were occasionally exhibited, to arrest the small portion of vitality, that appeared every moment on the wing. Blisters were also again applied to his head and neck, and sinapisms to his feet. On the seventh and eighth day, his tongue and gums were covered with brown sordes, the exhalation from his body, his breath and his excretions were highly offensive, his perspiration flowed profusely ; and his mind, as above observed, continued locked up in sleep. His cheeks were now occasionally flushed : and his pulse altered very irregularly and very quickly in the course of the day ; but there appeared to be a slight remission in the morning. He was now considered as a typhus patient, and the treatment, with immaterial alterations, was continued.

On the 9th, 10th, and 11th days, his gums were slightly mercurialized, and his mental faculties began to recover by slow degrees. He essayed at last to speak occasionally to his nurses ; but the muscles of the tongue denied him the power of utterance. His countenance likewise became more intelligent, and he began to take notice of surrounding objects. The prostration of strength, however, and the fœtor of his fœces and urine, continued the same, with the exception of the colliquative sweats, which abated at this time ; the exacerbations of symptoms which he had had in the evening were now hardly perceptible. On the 14th day of his disease, his left arm was discovered to be entirely paralytic. His muscular power otherwise increased, since he could by this time raise his right hand, protrude in part his tongue, articulate with less difficulty than before. Camphor, ammonia, opium, and their adjuvants were now laid aside entirely, and a decoction of bark with serpentaria substituted ; and his diet of beef-tea, chicken broth, Madeira wine &c. was continued as before. During the 15th 16th and 17th days, both arms were frequently affected with slight spasm : but his countenance assured the return of health ; and his stomach, stimulated by the wants of the system, craved frequently for food. From this time he got perceptibly better every day ; notwithstanding which, his bowels continued so torpid as to require the uninterrupted use of purgatives to excite them ; and the discharges of which he was not conscious, continued fœtid, sometimes hard and scybalous, and always dark coloured. His power over the sphincter of the bladder he never recovered; and the urine when recently voided had a highly ammoniacal odour.—In 35 days from the commencement of the disease, he again gnashed his teeth; and manifested other nervous symptoms, from which he was relieved in the course of 5 or 6 days by a succession of purgatives, which unloaded his bowels of a large quantity of hardened fœces.

Having been perfectly immoveable during the whole of his confinement, his hips at the end of seven weeks were excoriated, and these ulcerations from time to time encreasing by alternate inflammation and sloughing, now extended from one trochanter to the other. Upon the sacrum were numerous sinuses; and the effluvia emanating from so extensive a surface, filled with maggots, and yielding so large a quantity of matter always in a state of decomposition, rendered him the most complete spectacle of human misery I ever witnessed.

Both legs had been contracted in the commencement of his illness; and the spine appeared in every part to be perfectly anchylosed; so that there was indeed no part of his body moveable, but his right arm and his head.

At last, exhausted from the continued irritation, and the excessive discharges from his ulcers, he died, after a confinement of 87 days.

On opening his head the first thing that struck the attention of one of the gentlemen present, Dr. Maupin, was a small laceration of the dhra-mater. On feeling it, a spicula of bone could be plainly perceived; its basis had been attached to the cranium, and was broken in forcing off the scullcap. The next thing that attracted our notice, was a much greater quantity of serum between the membranes of the brain than is usual; and on cutting through the dura-mater along the longitudinal sinus, another ossified spicula was observed on the inner surface of the dura-mater, which could not have had any communication with the cranium; it was about an inch, or an inch and a half, above the place where the skull had been fractured; but the larger spicula first discovered, had its origin from the fracture itself. The vessels of the brain appeared uncommonly dilated, but were not much filled with blood. A large quantity of water was found in the lateral ventricles, and the foramen monroianum was greatly enlarged, and might have admitted a goose-quill with ease. The extremities after death could, with a little force, be straightened, and his back bent; the stiffness therefore of his joints, had been entirely owing to a permanent contraction and rigidity of the muscles.

With indelible sentiments of esteem, your friend,

LEWIS HEERMANN.

V.

Case of total destruction of the right lung in a recruit, communicated in a letter to Valentine Mott, M. D. by JACOB DE LA MOTTA, M. D.

FORT COLUMBUS, November 15, 1813.

DEAR SIR,

Your desire to collect and disseminate useful knowledge, and more especially that appertaining to the important structure of the human frame, has induced me to submit to your consideration the following brief statement of a no less particular than surprising object.

The appearance of the unfortunate individual, whose peculiar situation I shall endeavour to describe, was so singular that it could not possibly escape my observation. I regret much, I am unable to communicate, as I could not correctly ascertain, the minute circumstances attending the incipient affection, (which terminated as you will perceive, in an abscess of the right lung), nor the premonitory symptoms of his indisposition; as well as the period of its commencement and duration; the treatment pursued during the continuance of his case; and the particulars of his affliction and suffering. I trust, however, although imperfect in detail, it will attract a portion of your attention.

About fifteen days past, a man of the name of William Webb, was submitted to my examination, among many recently enlisted soldiers. His first appearance excited in my mind, impressions of astonishment, as he appeared to incline the right superior extremity rather behind the trunk of his body. I directed his coat and under clothing to be removed, and discovered the following visible defects: a manifest depression of the clavicle of the right side; a separation of its articulation with the upper part of the sternum; a pit or vacuity occupying the whole hypochondriac, and a portion of the lumbar regions, of the same side; extending from the axilla to the edge of the sternum, as far as the ensiform cartilage; in depth, within two or three inches of the posterior part of the trunk. Upon a more critical inspection, I found the pectoral muscles, all the anterior portions of the true and false costæ, or in other words two thirds of each rib, to have been completely absorbed, or carried away in a manner totally indescribable; as no external wound but a small scar, made by a enetrating instrument, denoted that any injury had been received. The region in which the lung is usually placed, was, as above observed, unoccupied, and a vacuity formed; the inner and most depending part lined with the external integuments, namely, skin, cellular substance, &c. I noticed particularly that no appearance of costæ anteriorly, was discoverable either to the eye or touch. The cavity of the axilla, and that preturnaturally left by the disappearance of the lung, formed a communication, leaving no traces of pectoral muscle to designate its peculiar situation; and seemed in extension, to meet the commencement of the abdomen. The liver had descended, was much diminished, and evident on examination. In a line with the scrobiculus cordis, and four inches from it, was seen a small cicatrix, which marked the situation of an opening made, (agreeably to the words of the man) by a surgeon, as an external passage to an abscess. His respiration was perfectly natural, unattended with an increase of inspiration, and causing no particular sound. The voice clear and distinct, his pulse weak, small, and a little hurried,—the motions of his heart manifesting a correspondent action.—I deem it proper to observe, that his lower extremities were a little œdematous, which was extending upwards, previous to his departure from the island. The disposition of the man appeared to be placid; and from what I could collect by interrogatories, his propensity for ardent spirits caused him to enlist. It was my intention to have made a more minute inquiry into this case; but certain professional and public duties obtruding on my time, produced a delay, which deprived me of the opportunity,—the man having left the island without my knowledge.

I forbear commenting on the above case. I leave it to the ingenious and speculative, who are more competent to account for the continuance of life, when a part so essential and materially necessary to its support, is subjected to causes capable of producing such disorder and deformity.

Query. May not this case add to the many, that have been adduced to prove, that the functions of one lobe of the lungs is independent of the other, and that one may be removed, without destroying the life of an animal?

I am, Sir, very respectfully yours, &c. &c.

JACOB DE LA MOTTA.

VI.

On Spina Bifida, from the paper by ASTLEY COOPER, *Esq. published in vol. 2. of the Medico-Chirurgical Transactions.*

James Applebee, Baldwin street, Old-street, was born on the 19th May, and his mother immediately after his birth observed a round and tranparent tumour on the loins, of the size of a large walnut.

Mr. Deering, who was her accourcheur, requested Dr. Petch to see the child with him, who informed the mother of the dangerous nature of the complaint, and of the probability of its fatal termination.

On the 22d of June, 1807, the child was brought to my house, and I found that although it had spina bifida, the head was not unusually large; that the motions of its legs were perfect, and its stools and urine were discharged naturally.

I applied a roller around the child's waist, so as to compress the tumour, being induced to do so from considering it as a species of hernia, and that the deficiency of the spine might be compensated for by external pressure.

The pressure made by the roller had no unpleasant influence on its voluntary powers; its stools and urine continued to be properly discharged, but the mother thought that the child was occasionally convulsed.

At the end of a week, a piece of plaster of Paris, somewhat hollowed. and that hollow partly filled with a piece of lint, was placed upon the surface of the tumour: a strap of adhesive plaster was applied to prevent its changing its situation, and a roller was carried around the waist, to bind the plaster of Paris firmly upon the back, and to compress the tumour as much as the child could bear.

This treatment was continued until the month of October, during which time the tumour was examined about three times a week, and the mother reported that the child was occasionally convulsed.

When the child was five months old, a truss was applied, similar in form to that which I sometimes use for umbilical hernia in children, and this has been continued ever since.

At the age of fifteen months, it began to make use of its limbs; it could crawl along a passage, and up two pair of stairs.

At eighteen months, by some accident, the truss slipped from the tumour, which had become of the size of a small orange, and the mother observed, when it was reduced, that the child appeared in some degree dull; and this was always the case if the truss was left off for a few minutes, and then re-applied.

At fifteen months he began to talk; and at two years of age he could walk alone.

He now goes to school, runs, jumps, and plays about as other children. His powers of mind do not appear to differ from those of other children. His memory is retentive and he learns with facility. He had the measles and small-pox in the first year, and the hooping-cough at three years. His head, previously and subsequently to the bones closing, has preserved a proper proportion to the other parts of his body.

The tumour is kept by the truss entirely within the channel of the spine; but when the truss is removed, it soon becomes of the size of half a small orange. It is therefore necessary that the use of the truss should be continued. When the truss is removed, the finger can be readily pressed through the tumour into the channel of the spine.

January 21st, 1809, Mrs. Little, of No. 27, Lime-house Causeway, brought to my house her son, aged ten weeks, who was the subject of spina bifida.

The tumour was situated on the loins; it was soft, elastic and transparent, and its size about as large as a billiard-ball when cut in half; his legs were perfectly sensible, and his urine and feces were under the power of the will.

The child was taken to a surgeon of eminence, who said that nothing could be done, and that the child would not live more than four or five months, and ordered the swelling to be washed with vinegar and water.

Having endeavoured to push the water contained in the tumour into the channel of the spine, and finding that, if the whole was returned, the pressure would be too great upon the brain, I thought it a fair opportunity of trying what would be the effect of evacuating the swelling by means of a very fine pointed instrument, and by subsequent pressure to bring it to the state of the spina bifida, in Applebee's child.

I therefore immediately punctured the tumour with a needle, and drew off about two ounces of water.

On the 25th of January, finding the tumour as large as before it had been punctured, I opened it again, and in the same manner, and discharged about four ounces of fluid. The child cried when the fluid was evacuated, but not whilst it was passing off.

On January 28th, the tumour was as large as at first. I opened it again, and discharged the fluid. A roller was applied over the tumour and around the abdomen.

February 1st, it was again pricked, and two ounces of fluid discharged.

On the 4th, three ounces of fluid were discharged.

On February 9th, the same quantity of fluid was evacuated as on the 4th; but instead of its being perfectly clear as at first, it was now sanious, and it had been gradually becoming so in the three former operations.

On the 13th, the same quantity of fluid was taken away; a flannel roller was applied over the tumour and around the abdomen; a piece of pasteboard was placed upon the flannel roller over the tumour, and another over the pasteboard to confine it.

On the 17th, three ounces of fluid, of a more limpid kind, were discharged; the pasteboard was again applied.

On the 27th, the surface of the tumour inflamed; the fluid, not more than half its former quantity, was mixed with coagulable lymph, and the child suffering considerable constitutional irritation, was ordered calomel and scammony, and the rollers were discontinued.

February 26th, the tumour was not more than a quarter of its former size; it felt solid; the integuments were thickened, and it had all the appearance of having undergone the adhesive inflammation.

On the 28th, it was still more reduced in size, and felt solid.

On March the 4th, it was in the same state as on the 28th of February.

March the 8th, the swelling was very much lessened; the skin over it thickened and wrinkled; a roller was again had recourse to; a card was put over the tumour, and a second roller was applied.

March the 11th, the tumour was much reduced; the skin covering it was a little ulcerated. On the 15th it was flat, but still a little ulcerated.

On the 27th, the effused coagulable lymph was considerably reduced in quantity, and of very firm consistence.

On the second of May, nothing more than a loose pendulous bag of skin remained, and the child appearing to be perfectly well, the bandage was soon left off.

On December the 18th, it was attacked with the small-pox, and went well through the disease.

The skin now hangs flaccid from the basis of the sacrum; its centre is drawn to the spine to which it is united, and thus the appearance of a navel is produced in the tumour by retraction of the skin.

The pricks of the needles are very obvious on each of the punctured parts of the tumour, forming slight indentations.

January 1810, Hannah Jackman, aged eleven days, was brought to my house with spina bifida, having *an ulcerated state of the skin over it.* The woman had been delivered by Mr. Rosewarn, a pupil of Dr. Haighton's and Dr. H. had seen the child.

Jan. 5th, the tumour was punctured with a needle, and the fluid was discharged.

Jan. 9th, the tumour was filled with coagulable lymph, as was proved by its inflamed appearance, and the firmness of its feel; the child appeared in great pain, had no stool, and suffered considerably constitutional irritation; it was ordered a dose of calomel and a glyster.

On the 10th, it had evacuations both by stool and urine, and on the 11th Mr. Rosewarn reported that the tumour was less in size; that it was still solid; that the child was considerably torpid, but sucked heartily.

On the 13th, the ulcer in the spina bifida was almost healed, the tumour was flaccid: convulsions, which had begun on the evening of the 11th, had been frequent to the 13th; the child foamed, struggled very much, and seemed very weak.

On the 16th, my assistant, Mr. Lewis, saw the child, and reported that the convulsions ceased on the 15th; that the child was much reduced, and that it was costive; the tumour was nearly level with the surrounding skin, soft, and of a red colour; it had still a small ulcer on it. Glysters were directed to be given.

Jan. 19th, the tumour had become very small, and but a trifling ulcer remained. The child, however, was convulsed; its eyes were drawn under its upper eye-lids; it was much reduced; it had retention of urine for a day and a night, and was extremely costive; it had ceased to suck for several days, but began to take the breast again on that morning.

Jan. 23d, the child sucked heartily; the tumour appeared to contain some fluid in its centre; the ulcer upon its surface was healthy, and nearly healed.

Jan. 26th, the tumour was somewhat increased; the child sucked, was free from convulsions, and improved in strength.

February 3d, the ulcer was healed; the tumour was much reduced, and the child greatly improved in its strength.

The child was again brought to me on the 13th, at which time the adhesive inflammation appeared to be complete. On the 15th of the same month it was seized with convulsions, which continued until the 24th; its eyes became inflamed on the 13th, and continued so until its death, and it died on the 25th of February.

Inspection on the 27th.—The bones of the cranium were very much separated at the sutures; there was no hydrocephalus internus; the brain was unusually soft; the ventricles contained about six ounces of a limpid fluid, but there were clots of coagulable matter floating in it.

In the preparation which I have, the adhesive inflammation is very complete, so that no cavity is left for the reception of the spinal fluid.

—— Sterney, son of Mr. Sterney, a butcher at Peckham, was brought to me on the 10th January, 1810; it had a very large spina bifida at the basis of the sacrum.

I opened it on the 15th, by the same means as I have before described, and discharged about an ounce of limpid fluid.

On the 17th, I again opened it, and removed about an ounce of fluid, which was a little bloody; the child had been restless and had green stools, which is always a marked sign of irritation in children.

On the 19th, the child had two convulsions; the tumour was opened; the fluid was a little sanious, and the tumour contained some solid matter; the child was much purged, and this was directed not to be repressed.

Two ounces of fluid were discharged on the 24th; and on the 26th, an ounce and an half of fluid was drawn off, and a dossil of lint was applied upon the opening from the spinal canal into the tumour; this was firmly bound down by a roller.

On the 30th of January, 1st of February, 4th, 11th, and 26th, the tumour was opened.

Two ounces of fluid were also discharged on the 27th, and then a piece of sheet lead was placed upon the tumour, lined with lint and covered by a roller.

On February 28th, and on March 1st, and 2d, it was opened.

On the 3d, plaster of Paris was applied upon the swelling after discharging its fluid; this was confined by a roller tightly applied.

On the 4th, it had convulsive twitchings of its hands, and quickened respiration; it was restless, hot, and cried much; half an ounce of fluid was discharged.

5th.—Vomited frequently: the swelling was again opened.

6th.—The fluid was discharged: lint and adhesive plaster were afterwards applied, and this plan was repeated on the 8th and 9th.

10th.—The tumour was not opened, because it felt so hard as to induce me to believe it had adhered.

11th.—Stools green; vomited frequently; bandage still applied, but not the adhesive plaster.

13th.—Child sick; stools green.

14th.—Two ounces of fluid discharged; plaster and roller applied.

17th.—Plaster of Paris applied wrapped in lint, and bound very tight.

19th.—Comatose, and convulsed, as it was thought, from the pressure of the bandage, and plaster of Paris, these were removed, and a lighter bandage applied.

22d.—The child, which on the 19th appeared to be dying, is better to-day.

24th.—Is more lively; it sucks but little; the tumour being very large and full, a truss was applied.

27th.—The truss is to be continued, as the tumour is smaller.

30th.—Tumour reduced; the child has cut a tooth; the truss continued.

April 4th.—Appeared to be suffering pain and sickness from the truss, and it was removed.

9th.—Tumour pricked, and the truss re-applied.

14th.—The tumour again pricked.

18th.—Continues to wear the truss; the tumour was opened to-day; a handkerchief was doubled under the truss; the child vomited after its application.

22d.—Appeared in good health; the tumour was pricked, and again on the 26th, when there was some coagulable lymph in the fluid.

May 2d.—The swelling was pricked, also again on the 6th, and the quantity of fluid which was discharged was not diminished, continuing to amount to from two to three ounces.

The child was now sent to Messrs. Sharpe and Arnauld, surgeons at Peckham, who attended the family, and who pricked the swelling at different times, and discharged the same fluid, both in quantity and quality, which I have described.

The adhesive process was, however, unequal to close so large an aperture from the spine as existed in this case, and I therefore abandoned the adhesive plan, and directed that the same mode of treatment should be pursued as in Applebee's case; that a truss should be applied, and constantly worn upon the part, and that the palliative rather than the radical cure should be attempted.

The tumour has been gradually diminishing under this mode of treatment; the child has grown in proportion to other children, and at the age of a year and an half is a very healthy boy.

These, then, are the two modes of treatment which I have pursued for the relief of those who are afflicted with spina bifida; the one palliative only; the other radical.

The first consists in treating the case as a hernia, and applying a truss to prevent its descent; and the second in producing adhesion of the sides of the sac, as to close the opening from the spine, and stop the disease altogether.—The first is attended with no risk. The truss forms an artificial vertebra where the natural is defective, a buttress which supports the part, and prevents the increase of the disease; but in this mode of treatment the truss is required in future life, for if discontinued the tumour re-appears, and will grow, as hernia does, to great magnitude, but with more fatal consequences.

On the contrary, the adhesive mode of cure exposes the patient to much constitutional irritation, but leaves him without the apprehension of the future return of the disease. And a finer and more healthy child cannot be seen, than that which was cured by this mode of treatment.

It may be also observed, that this mode does not prevent the subsequent attempt at the palliative treatment, if the radical should not be successful.

But as there are many cases of spina bifida, which cannot be cured, it is right that I should state what are those which will not admit of relief.

If the tumour is connected with an unnatural enlargement of the head, hydrocephalus internus is conjoined with spina bifida; and the water will accumulate in the ventricles, if the tumour in the loins is attempted either to be palliated or radically cured.

If the lower extremities are paralytic, or the feces and urine are discharged involuntarily, there is no hope of relief.

If the tumour has burst at the time of birth, or bursts soon after, there is little hope of cure; for although the opening in the skin may be closed by lint and adhesive plaster, and union produced so as to admit of no further discharge of water, yet hydrocephalus internus will still succeed. In a case which I saw with Mr. Young, surgeon at Lambeth, I closed the opening, and applied a truss, but the head enlarged, and the child died after eight months, with hydrocephalus internus.

The deficiency of the spine is sometimes so great as to lead to the production of a most extended tumour at the time of birth, and when this is the case, the nerves are so far protruded from the spinal canal as to injure the structure of the spinal marrow, and render every attempt at cure unavailing.

I should feel myself deficient in that liberality with which our profession ought ever to be marked, and usurping more than my due, if I did not state that the principle of the radical cure as proposed for Spina Bifida, is similar to that recommended by Mr. Abernethy in his work on Psoas Abscess.

The mode, however, which I have employed for the purpose is, I believe, the only safe one, that of puncturing the part with a needle; for every opening of a large size will be attended with the utmost danger.

I have for many years used this plan in cases of ganglia, when I could not burst them by a blow or excite their removal by pressure or irritation; and I have never seen it followed by inflammation or any serious consequence; and it may be used in cases of accumulation in joints and other cavities, where larger openings are dangerous.

VII.

Case of Diffused Aneurism from the temporal artery, occurring in the practice of Dr. John Onderdonk.

Although the following case presents no surgical novelty, it remarkably well illustrates certain doctrines already received, and shews how great are the powers of nature in removing disease.

July 8, 1807, Mrs. R. in Chatham street, being busy in the kitchen, struck her right temple against the corner of a tin oven, as she was rising from a stooping posture. Immediately a small tumour formed under the injured spot, which, when Dr. O. first saw it, (an hour after) was as large as half a hen's egg. In another hour it was more diffused and half as large as the fist, and seemed to increase more rapidly than before; so that by the end of the third hour, when Dr. Post saw the patient in consultation, the integuments were so much raised as to force outwards the upper part of the ear, and to close the eye by drawing outwards the external canthus. Searching for the vessel being deemed inexpedient, a lotion of cold vinegar was ordered, and laudanum was administered to relieve the pain, which had now become very distressing. The feel of the tumour was like that of a bladder filled with water, the skin was not discoloured, and the only mark of violence was a small wound or rather scratch at the upper part of the tumour. In the evening, 6 or 7 hours after the accident, the eye-lids had become livid, as is common after wounds or blows on the integuments of the cranium. The tumour had farther increased; the lobe of the ear (the only part of it which contains loose cellular substance) was considerably distended; articulation was rendered very imperfect by the distension and drawing aside of the lips; the tumour was very tense, and the skin over it of a glossy smoothness. The lotion was changed for one of lead-water and laudanum.—There was no pulsation.

On the day following, the tumour was still larger, but the skin less tense. It continued to increase during the next day, and the head seemed to be half as large again as natural. The swelling extended to the eye-lids, cheeks, lips, upper part of the neck, and lobe of the ear; the whole ear was raised with the skin, the eye was closed, the mouth nearly so, and both, with the nose, dragged aside. The face appeared as if half a head were added to the right side. The tumour was now at its height, and remained stationary for several days. The process of absorption was however soon commenced, the tumour was frequently washed with brandy; bark was occasionally administered; and in about three months the whole of this mass was removed, leaving the patient entirely free from deformity.—No inflammation occurred.

There can be no doubt that this tumour was occasioned by a rupture of the anterior branch of the external temporal artery. Here a question naturally suggests itself,—would not tying the artery have been better practice? The temporal artery, and indeed all the arteries of the scalp, are not so constant in their situation, as to be cut upon with certainty; unless their pulsation be the guide they will not be instantly found; or if they are, it will be more from good fortune than skill. No one would perform arteriotomy, without either seeing the vessel or feeling its pulsation. In the present case the artery could neither be seen nor felt; and this branch is attached to the skin, and almost imbedded in it, so that every incision made in searching for it, would have increased the size of the scar.

Query. Would it not be correct, in any future case, to make a free incision at the injured spot, and thus divide completely the bleeding artery? This would reduce it to the same condition as after arteriotomy; and retraction and contraction of the ends of the artery, together with pressure, would arrest the bleeding. The artery should be divided immediately, before the integuments become so much distended and removed from the bone, that there is nothing solid to press the artery against.

VIII.

On Laceration of the Large Arteries, by HENRY U. ONDERDONK. M. D.

The laceration of an arterial trunk without bleeding, is the most striking occurrence in surgery. The case published by Mr. Cheselden excited the astonishment of our profession for near a century; and although two others have been made public, they are scarcely regarded as depending on a natural cause. Such cases exemplify very remarkably, that while the animal frame is admirably constructed for the purposes of health, many parts of it appear contrived to prevent the fatality of accidents. They establish also a surgical maxim of the highest importance,—that we are on no account to disturb the vessel which is thus naturally closed, except it be to effect the more secure artificial closure by means of a ligature.

The chief object of this paper, is to lay before the readers of the Magazine, the three cases of laceration of large arteries which have been published abroad, and several others which have never been recorded.

1. Cheselden's well-known case of the miller, whose arm and scapula were torn off, leaving the clavicle remaining; the axillary artery was of course lacerated. It did not bleed, and the wound healed.

2. Mr. Carmichael's case, in the Medical Commentaries, of a little girl whose arm was caught in a barley-mill, and torn off, an inch and a half above the elbow. The brachial artery was lacerated, but did not bleed, although she had no surgical attendance till an hour after the accident. The arm was amputated at the shoulder, and the girl recovered.

3. The case of a boy, twelve years old, published by Mr. Carter in the Medical Facts and Observations. His left toe

was caught in a slitting mill, and the whole limb gradually drawn in, till it reached the point where the sartorius crosses the triceps. A man coming to his relief, "forcibly tore him from the machine, by which means the muscular integuments were separated from his body, together with the whole of the left side of the scrotum. The other side also of the scrotum was lacerated, and part of the pyramidalis muscle." The laceration was continued along Poupart's ligament of that side, and then (according to the plate) passed transversely; so that the thigh was severed almost accurately from the trunk. The femoral, or rather inguinal artery, must have been divided before the profunda was given off; no hæmorrhage occurred, although the vessel was left without ligature. The boy died on the sixth day after the accident.

4. The following case the author witnessed while attending at the London Hospital.

January 12, 1810, A man was brought to the London Hospital, with his thigh torn almost off by the machinery in a brew-house. The point of laceration was about one third down from the spinous process. All the anterior and lateral muscles were torn through, the femoral artery completely divided, and the bone snapped off as even as if it had been sawed. A small portion of the integuments, and one or two of the loose muscles remained posteriorly. The femoral artery had not bled, although the accident happened more than an hour previous to his being brought to the hospital.

The patient was a very large, fat man, such as are often seen among those who work in breweries. And as the effects of injury are more severely felt in such habits, his chance of recovery was very small. His pulse indeed was already extremely weak, and the powers of his system nearly exhausted. Mr. Thomas Blizard drew out the femoral artery and tied it; no other vessel was found. He then removed the limb by cutting through the remaining muscles and integuments, and dressed the wounded surface. The patient was put in bed, and a hundred drops of laudanum administered. He died in about an hour.

The only point of surgical interest in this case is, that the femoral artery did not bleed. And this instance is perhaps more surprising than any upon record. The femoral artery of a *large* man is the vessel of greatest magnitude which has suffered laceration without hæmorrhage.

5. Dr. Vanbeuren of Tortola, in a letter to the author, gives the case of a sailor, who, while ramming a cannon, by its accidental discharge, had both his arms torn off; the left a little above the wrist, and the right very near the elbow. When an artery is lacerated, it is somewhat stretched, and the point of laceration is a little above the wound; so that in the right arm of this sailor, the lower end of the brachial artery must have been torn off. There was no hæmorrhage from either arm, although he remained a good part of the night without surgical aid. Both arms were amputated, and the patient was nearly recovered when he left the island.

6. Mr. J. Bell, in 1809, attended a miller, whose arm was torn off in the same manner as in case 1. The following account, from the notes of Dr. Mott (who was in Edinburgh at the time), may not be unacceptable. "In endeavouring to adjust a rope to some part of the machinery of the mill, he inadvertently put his hand upon a windlass in rapid motion, and was thrown with great violence among some of the larger wheels; the mill stopping with his arm fixed in the wheels. When he was taken out there was only the faintest appearance of life; and when Mr. Bell reached the place (a short distance from town), he had revived but little. The os brachii was torn from the scapula and fractured in two places; the scapula was detached from the clavicle; the axillary artery, vein, and nerves were completely torn through; the muscles shockingly lacerated, and the whole arm hanging by a small portion of the serratus magnus anticus. Not more than 20oz. of blood were lost by both accident and operation, not a drop of which was from the axillary artery or vein; it oozed from the minute vessels only. The artery was retracted within its sheath, and surrounded by a coagulum; and as there was no apprehension of hæmorrhage, it was not tied. The

wound was brought together as well as possible. The next day he was much revived; but a considerable emphysematous tumour appeared on his side. He was bled and took a cathartic, also some light nourishment. On the third day, he complained of more pain, and had a very harrassing cough; but the emphysematous tumour was lessened. He was bled again, largely. On the fourth day, the wound had begun to suppurate; but his pulse had become low, and his face purple; and as he was raised up to remove the dressings, he expired.

Examination; five ribs on the left side were fractured, the lung wounded, and a serous effusion in the chest. The subclavian artery, torn near the arch of the aorta, was plugged with a conical coagulum, which adhered firmly to its inner coat; the coats were inflamed, particularly the inner; and the whole arterial tube contracted at its extremity. The extremity of the vein nearly similar, but not so much contracted. There was nothing peculiar in the extremities of the lacerated nerves, they were slightly inflamed."

7. A sailor was brought into Guy's hospital, who, some hours before, had his thigh caught in the coil of a cable, which took it nearly off, so that it hung only by a small portion of skin. The artery did not bleed. The thigh was amputated, and the man recovered.

8. Another case occurred to Mr. A. Cooper, in which the femoral artery was torn completely through, and but little hæmorrhage followed. (The 7th and 8th cases are also from the notes of Dr. Mott.)

9. Mr. Abernethy's case of laceration of the carotid artery by the horn of a cow, (in which he tied that trunk for the first time in England), may perhaps be included. There were indeed several repetitions of hæmorrhage, but if the force of the blood had not been somewhat controuled, by the process usually occurring in lacerated arteries, a profuse and fatal loss of blood must have immediately occurred.

Surgeons have attributed this security from hæmorrhage, to a contraction in the end of the lacerated vessel. If by this is meant a muscular contraction, an incorrect idea of the appearances is conveyed. It is indeed scarcely probable that the contraction of so few fibres can resist the impetus of the heart and larger arteries. In the fourth case, the end of the artery below the ligature was cut off. It was evident that the brittle internal coat had given way instantly; and that the elastic cellular coat was drawn over it, the sides of the latter being matted together, and tapering to a point, so as to close the arterial tube completely. This state of the cellular coat was seen at the torn extremity of the piece of artery, while the cut extremity was patulous, as is always the case where an artery has been divided with a sharp instrument.

In the 6th case, the end of the lacerated artery was contracted, and filled with a conical coagulum; but this condition could not have taken place so instantly as to stop the first impetus of the blood. The matting together of the coats of the vessel, must probably have effected its instantaneous closure, and the clot, when formed, rendered it more secure, until the final process was instituted.

The effusion of lymph upon the lacerated surfaces of the cellular coat, and the consequent union by adhesion, soon secures the vessel from hæmorrhage. No prudent surgeon, however, should trust to mere matting together of the coats; whenever the end of the vessel can be drawn out and tied, this should be considered as indispensible. And even where the laceration has so confused the parts, that the artery cannot be found, or where it is too much bruised to bear a ligature, it should be tied (if possible) at some higher point.

When an artery is lacerated, but the limb not torn off, this practice will not only secure the patient from hæmorrhage, but will probably induce a more favourable condition of the wound, by lessening the inflammation which is to follow. The author of this memoir lately pursued this practice with the happiest effect in a case of wounded knee-joint, attended with troublesome hæmorrhage from small arteries The femoral artery was secured, at the point where it is passing under the sartorius, by which high inflammation was entirely prevented. (See No. 2. Vol. 4. of the Amer. Med. and Philos. Register.)

This practice is indicated in all severe injuries in which the prevention of inflammation is a primary object. Compound fractures of the worst class, in which amputation generally becomes sooner or later necessary, are very proper cases for testing its efficacy. An immediate reduction of inflammatory action to the low degree necessary for producing union by adhesion, is the principal indication in these and several other cases; and there can be no means of effecting it, more certain than tying the main artery of the limb.

IX.

Singular case of softening of the thigh bone, communicated in a letter to Henry U. Onderdonk, M. D. by Wright Post, *Esq. Professor of Anatomy, &c.*

Dear Sir,

The case of rapid absorption of bone which you have heard me relate, and of which you have requested the particulars, occurred in this city about six years ago.—Of the situation of the patient previous to the manifestation of this event, I have not now any distinct recollection. All I know is, that he had been for a considerable time in an impaired state of health; for the particulars of which I must refer you to Dr. Berger, who had been in attendance upon him.*

In the month of May 1807, I was requested to visit him in consultation. The evening before I saw him, after walking about in his room, he was suddenly seized with a very excruciating pain in the right thigh, and went to bed. In the course of the night, it was discovered that the thigh was considerably bent, and in the morning I found it bent almost to a right angle. The patient still complained of very great pain, particularly when any attempt was made to straighten the limb; but its flexibility was so complete, that, after the pain became less severe, a very moderate extending force reduced it to a straight position. It soon however became crooked again by the contraction of the muscles. Indeed, so powerful was this contraction, and so considerable the loss of bone, that notwithstanding the most attentive application of splints and bandages, the thigh could not be kept in a straight position. In addition to this loss of stability in the thigh, the whole limb soon became œdematous, and increased in size from this cause, to a great degree.—It would be needless to enter into any detail of the occurrences which took place after this. It is sufficient to observe that the remedies employed, which were tonics, had no effect in arresting the progress of the complaint. He had constantly more or less pain, for the relief of which opiates were constantly necessary, and sometimes he had considerable fever. Under these circumstances, his health daily diminished, until the ensuing January, when he expired. None of the other bones had participated in this affection.

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* Dr. Berger has obligingly informed Dr. O. that this patient was of a gouty habit, but had not had a fit of that disease for a twelve-month. That he had occasionally, pains apparently rheumatic in different parts of the body, for which he used guaiacum and sarsaparilla in decoction; but that he had not taken any mercury. That three weeks before the softening of the bone, the thigh became the chief seat of pain, but he still walked about, and called at the house of Dr. B. half a mile from his own. The patient appeared to be between 45 and 50 years old.

On cutting into the thigh after death, it appeared little more than a dense, gelatinous mass; and there was scarcely a vestige of the thigh-bone to be found. In different places, small spiculæ of bony matter were to be felt, indicating some disposition to the reproduction of bone. But the ossific powers were too weak, for the restoration of what had been in the first instance so rapidly removed by absorption.

I am very respectfully,
Your obedient servant.
W. POST.

X.

Case of Carotid Aneurism successfully operated upon by **Wright Post**, *Esq. Professor of Anatomy, &c.—Drawn up by Valentine Mott, M. D. Professor of Surgery, &c. and communicated in a letter to Benjamin Travers, Esq. Demonstrator of Anatomy at St. Thomas's Hospital, Surgeon to the London Infirmary for curing Diseases of the Eye, &c. &c.*

November 26th. 1813.

Dear Friend.

As I know thou wilt take an interest in learning that the great modern operation has been performed in this country, I take the liberty of enclosing thee the case.

Tying the carotid artery had more arguments to support it, than tying any other artery in the body. The free communication of the arteries of the brain, and the large supply which is insured that organ, even if one of these be tied, added to the analogies furnished by obliterating the other great arteries, had convinced surgeons of the theoretical safety of the practice. Still the minute structure of the brain, and its functions were involved in so much obscurity, that it was accounted a hardy experiment. The confirmation which it accidentally received*, was necessary in order to remove the apprehension, lest the coldness and numbness consequent to the operation in the extremities, might in the brain be a fatal deliquium.

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* The first case of tying the carotid artery was by Hebenstreit, who wounded it accidentally in extirpating a schirrous tumour from the neck, and immediately tied it. His patient recovered, and lived many years. (see Dr. Vose's dissertation p. 12.)

The next case within my knowledge, was that under Abernethy's care. A man was gored in the neck by a cow. The horn of the animal tore the internal carotid artery, and all the primary branches in front of the external carotid. The vessels did not immediately bleed freely, but blood gushed occasionally from them. He tied the common carotid, and instead of any bad consequences ensuing, the man recovered immediately from the faintness occasioned by the accident and loss of blood. This was the main point necessary to be established; if a fatal event did not immediately ensue, the after-success of the operation might be calculated on nearly the same principles as that of any other case of tying an arterial trunk. Abernethy's case (that of Hebenstreit's being little known) may be regarded as the first authority for the new operation, although his patient did not survive.

As Abernethy's patient, (although the taking up of the artery was proved to be safe,) did not eventually recover, Astley Cooper deserves little less than the merit of being the inventor of the operation; his case established that it could be successfully performed. From his success, has tying the carotid artery been ranked as one of the *regular* operations in modern surgery.

Of the five operations performed in Europe*, one of Astley Cooper's only (which I had the satisfaction of seeing), and thy own, have been successful. As long as the unfavourable events overbalance the favourable, every fortunate operator has a claim to that reputation which has always been awarded to the successful. The case I send thee, by adding one to the list of favourable results, restores the balance, and must increase the confidence of the public in this operation.

Peter Thomas, a negro, born in the West Indies, aged 35 years, was admitted into the New-York hospital, January 5th, 1813, with an aneurism of the carotid artery situated immediately below the angle of the jaw on the right side. He first experienced a pulsatory sensation in March 1812, but no swelling was at that time visible. Soon after, a very small tumour was perceptible, which slowly increased in size until about two months ago, when it began rapidly to enlarge; until this period, the tumour was unattended with pain. He now, however, complained of a thrilling sensation in the head, and lately he has been subject to occasional attacks of vertigo.

Previous to his admission, he had been bled from the arm once, and blisters! had been applied to the part by some practitioner who appears to have been unacquainted with the nature of the complaint. He is of a plethoric and robust habit, and has never laboured under any severe illness,

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* These cases were, two by Astley Cooper, of which one was successful; one by B. Travers, also successful; one by Henry Cline, sen., and one by M. Bierkin, a celebrated surgeon of Stockholm, in Sweden,—both unsuccessful.

His occupation for a considerable period before the discovery of his complaint, was that of a labourer attending upon masons; and in this capacity, he was frequently obliged to carry heavy loads upon his shoulders, and often worked with his head in a depending position. The dimensions of the tumour at the time of his admission were as follow:

Length,	6 1-8	inches
Breadth,	4	do.
Height, or projection of the tumour from the neck, more than	2	do.
Half circumference of the tumour, measured externally,	8 1-4	do.

His pulse being strong and full, xvi ounces of blood were taken from the arm; and on the day following, a purgative of sulph: sod: was administered, and he was put upon low diet. These means had the effect of diminishing arterial action in a considerable degree.

On the 7th January, it was agreed in consultation, that tying the carotid artery afforded the only hope of safety. The patient acquiescing in this decision, it was perfomed on the 9th, at 12 o'clock, by Dr. Post.

An external incision was made, about three inches in length, from the lower part of the tumour to within a small distance of the clavicle, which exposed the inner margin of the sterno-mastoid muscle. The dissection was cautiously pursued through the cellular texture between that muscle and the sterno-hyoideus until the sheath containing the vessels became apparent. The artery being then separated from the vein and par vagum, a double ligature armed with needles was passed under it, by means of an eye-probe bent to a suitable curvature for that purpose.

The ligatures were then separated, and the lower one firmly tied; the artery was next separated from the surrounding parts and secured with the other ligature, about 3-4 of an inch above the lower. The needle with which the lower ligature was armed, was then passed through the coats of the artery, and secured with another knot, in the manner recommended about a century ago by the celebrated Dionis, in France, and lately revived by Henry Cline, Junr. of London. Afterwards, the intervening portion of the vessel was divided with the bistoury.

It may be of importance to observe that the artery was 1-3 larger than its usual size, and its coats uncommonly thickened. The lips of the wound were retained in exact apposition by strips of adhesive plaster, and lightly covered with lint. No bandage was employed.

Immediately after the first ligature was applied, the action in the aneurism entirely ceased; but in a short time, when attentively examined, a pulsatory motion was obscurely perceptible. It was remarked by Dr. Mott, who had his fingers upon the artery at the wrist, that about 30 seconds after the ligature was applied, the pulse evinced a sudden diminution both of frequency and force; in about a minute and a half however, it regained its usual standard. At this time too, he complained of a pressing or sense of weight on his right inferior extremity,—his right arm and leg seemed relaxed, and the former dropped involuntarily by his side, and seemed deprived of the power of motion. The return of the energy of the circulation, however, was simultaneous with the disappearance of these symptoms.—Three o'clock P. M. the patient complains of oppression about the upper part of the chest; and of pain in the right side of the head, although not as before of the throbbing kind. He feels chilly, and complains of cold in his feet. Skin of natural temperature. Pulse 72, small and feeble.

Let him have an anodyne-sudorific draught, and warm applications to his feet, and drink freely of tepid barley-water.

Six o'clock P. M. Oppression at the chest relieved; complains still of a pain in the right side of his head, and of soreness in the wound. Skin natural. Pulse full and distinct. Ten o'clock P. M. The pain in the right side of the head continues Feels otherwise very comfortable.—Temperature of the skin rather increased. Pulse 70, full and soft.

Jan. 10th.—10 o'clock A. M. Complains of no pain or uneasiness except in the head. Has slept very well during the latter part of the night. Skin natural. Pulse 76 and regular. Let him be bled to xii ounces.

4 o'clock P. M. Pulse 80 and full. Other symptoms much the same. 10 o'clock P. M.—Pulse 84, strong, full, and somewhat hard. Skin dry, and above the natural temperature. Tongue covered with a white fur. Complains of no pain. Ten ounces of blood were taken from the arm, and he was directed to take copiously of his tepid drinks.

Jan. 11th.—Has no pain, but only a stiffness and uneasiness about the throat. Pulse 86, and of moderate strength. He enjoyed several hours of sleep during the latter part of the night. No alvine evacuation since the operation. Let him take sal rochelle in divided doses. 10 o'clock P. M.—The purgative has operated freely.—Pulse 86, and somewhat excited. Skin heated.

Jan. 12th.—The patient early this morning, after an attack of coughing, was affected with syncope, which continued several minutes; on his revival, he complained of uneasy sensations about the throat, attended with a difficulty in ejecting the excretions of the fauces. Skin cold, and covered with a copious perspiration. Pulse very frequent and feeble, and he appeared much exhausted. He was this day directed to have a more nourishing diet. The tumour does not appear as prominent as before; it has a hardened feel, and the pulsation is very obscure.—10 o'clock P. M. Pulse 94, moderately full and strong. Skin heated, but moist. Feels no pain except at the wound.

Jan. 13th.—Has passed a comfortable night. Pulse 90 and soft. Skin natural. He is troubled occasionally with fits of coughing, which displace the dressings, and arise from a painful sensation about the throat. For this, he was directed to take x gtt. tinct: opii every two hours.—No union by the first intention having taking place in the wound, it begins to suppurate from the whole surface. Pulsation in the tumour almost imperceptible. 10 o'clock P. M. Pulse 90 and rather quick. Skin heated.

Jan. 14th.—Patient quite tranquil. Pulse 84, cough less troublesome. Bowels costive: Let him have the purgative salt in divided portions, until an evacuation is produced.

Jan. 15th.—Passed a restless night, on account of the cough, and a pain in the right side of the head. He is, however, much better since the complete operation of the purgative. Pulse and skin natural. The wound has a healthy appearance, and suppuration is completely established.

Jan. 16th.—He slept very little last night. Let him have an anodyne of xl gtt. tinct: opii to night.

Jan. 17th.—The patient rested well last night, in consequence of the anodyne. His cough is still troublesome, and attended with pain in the lower part of the throat. The surface of the wound is covered with florid granulations, and the discharge healthy. Let an anodyne of xxx gtt. tinct: opii be administered to night, if necessary.

Jan. 10th.—No material alteration in the state of the patient. He took a saline cathartic in divided portions, with the desired effect. The anodyne was repeated at night.

Jan. 19th.—The discharge from the wound is rather bloody, owing perhaps to the paroxysms of coughing which still harrass him.

Jan. 20th.—Rested unusually well last night. Complains of no pain, and the cough is much better. Wound discharges a bland and healthy pus, the granulations are vigorous.

Jan. 22d.—Cough less troublesome. Lunar caustic was applied to the wound. The dimensions of the tumour as measured to day, were as follow,

Length,	5	3-4	inches
Breadth,	3	1-2	do.
Projection,	2		do.
1 2 Circumference,	7	3-4	do.

Pulsation still perceptible.

Jan. 24th.—The upper ligature came away with the dressings. Lunar caustic was again applied.

Jan. 26th.—The lower ligature came away. The sore has contracted to a small size, and discharges but little.

Jan. 28th.—The patient rested ill last night. He complains of headach, and of a soreness in the tumour, which seems more tense than usual. His cough remains, but is better.

Feb. 2d.—Complains of no pain whatever. General health good. The wound has nearly healed, and pulsation is not perceptible, except at one point where the tumour is softer than at other parts, and it is here very indistinct. The size of the tumour this day was as follows.

Length,	4 3-4	inches
Breadth,	3 1-4	do.
Projection,	1 3-4	do.
1-2 Circumference less than	7 1-2	do.

Feb. 4th.—There is some inflammation and soreness about the wound, and he complains much of headach.—Pulse and skin natural. Bowels regular.—An emollient poultice was directed to be applied to the wound and the parts adjacent.

Feb. 7th.—The pain and soreness have ceased since the use of the poultice. The poultice to be omitted.

Feb. 13th.—Since the last report, he has been occasionally troubled at night with a throbbing pain in the head.—When lying down also, he remarks a singing sensation in the left ear. These symptoms were relieved by the exhibition of a saline purgative, and maintaining his head in an elevated posture while sleeping. He complains of a soreness about the wound, and lower part of the tumour, which has not sensibly decreased in size since the last admeasurement.—Pulse, skin, and bowels in natural condition. He was directed to have the cataplasm again applied.

Feb. 22d.—No soreness at present about the tumour. A small sinus remains, 1 1-2 inches in depth.—He complains yet of occasional throbbing in the head; and there is a point, near the lower part of the tumour, particularly soft and prominent at which an obscure pulsation is still perceptible.

Feb. 26th.—Let the following be used as an injection to the sinus.

R. Sulph : zinc, 16 grains.
Aqua fontan : 8 ounces. M.

March 4th. No material alteration. Let the following be used as an injection instead of the last directed.

R. Sulph : Cupri. 1-2 dram.
Aqua fontan : 4 ounces. M.

March 11th. Two scruples Sulph ; Cupri. to 4 oz. water were ordered as the strength of the injection.

March 23d. The sinus has contracted considerably.—The size of the tumour this day was as follows.

Length,	4 1-4	inches.
Breadth,	2 3-4	do.
Projection,	1 1-3	do.
1-2 Circumference,	6 1-2	do.

On the 17th of May,* the sinus was perfectly closed, and enjoying good health, he requested to be discharged which was accordingly complied with. At this time the tumour was gradually declining.

About two months after, the tumour began to enlarge, and was attended with great pain. At this time from some officious advice, he was induced to try poulticing ; the empl. mercuriale was also applied, but neither were persevered in, being only used a very short time.

On the 3d of September he returned to the hospital, after an absence of three months and a half. The tumour was now double its original size, tense, and painful to the touch, accompanied with a considerable degree of heat, and fluctuating at three or four points, which were considerably the most projecting. The morning previous to his admission, one of the soft projecting points on the anterior part of the tumour gave way, from which he lost about thirty ounces of blood ; it was however easily checked by the application of lint and slight pressure.

September 4th, another small opening appeared, posterior to the former, followed by a discharge of a small quantity of pus mingled with blood.

Sept. 5th. The lint and dressings, which had been applied to the first, or anterior opening, to check the hæmorrhage, were removed, and no flow of blood succeeded.

Sept. 10th, he lost about four ounces of blood to day, which oozed from the ulcerated surface. The size of the tumour not perceptibly diminished. An obscure pulsation discoverable at two distinct points. He complains of some difficulty in deglutition.

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* We find that Dr. Dorsey, in his elements of surgery, has published the former part of this case, which was drawn up at his request by Dr. M.—a favor which he has not been obliging enough to acknowledge. Ed.

Sept. 14th, the tumour appears a little diminished, and not so tense and painful. The ulceration of the integuments gradually increases; the discharge is dark-coloured and fœtid. Pulsation is now perceptible only at one point, and there very obscurely.

Sept. 20th,—No pulsation can now be perceived on the most strict examination. The fœtor of the ulcer is almost intolerable, and the quantity of discharge is increased. From the bottom of the ulcer, large sloughy portions present themselves, which no doubt are coagula of the aneurismal sac, and tend very much to increase the fœtor. Into the posterior opening the probe can be introduced to the bottom of the sac.

Sept. 23d, he complains of throbbing pain in the head and tumour. The tumour is painful upon pressure, and an unusual degree of heat pervades it; pulse full and frequent, though not hard. A saline purgative and low diet were prescribed,—followed by relief.

Sept. 24th, the yeast poultice was applied.

Sept. 27th, A profuse hæmorrhage occurred this afternoon, and before it was checked, he lost upwards of two quarts of blood. Pressure, by means of dry sponge and compresses, restrained it. The dressings were not removed until loosened by a copious purulent discharge. Notwithstanding the loss of this great quantity of blood, no syncope was induced: the pulse however was intermitting for some time.

Oct. 1st.—No material change since the last report. The poultice has been discontinued since the hæmorrhage. The discharge is very abundant.

Oct. 8th.—The tumour is very painful to the touch, and extremely tense. He complains of much difficulty of deglutition and respiration. The size of the tumour has considerably increased by inflammation. He has some fever. The poultice was again directed.

Oct. 11th.—He is much better. The tension and tumefaction of the tumour diminished.

Oct. 20th.—The size of the tumour is rapidly diminishing. Let the poultice be omitted.

Oct. 22d.—This morning, 4 o'clock, a hæmorrhage again occurred, and he lost thirty ounces of blood. By this and the preceding hæmorrhage, he was much debilitated. His pulse was scarcely perceptible, fluttering, tremulous, and occasionally intermitting. Rest and a recumbent posture were strictly enjoined.

Oct. 25th.—His pulse continues feeble and frequent, though he is considerably better.

Oct. 29th.—He is rapidly recovering from his debility, and again enabled to take his usual exercise. Portions of coagulated blood are daily discharged, with a great quantity of the dark-coloured matter before mentioned. His pulse still small, though not so frequent.

Nov. 1st.—He complains of much pain in the tumour, particularly upon pressure. Let the yeast poultice be applied.

Nov. 3d.—The size of the tumour very much diminished, and not so painful. The discharge extremely copious.

Nov. 7th.—It continues to decrease very rapidly. It has diminished one third since the application of the poultice on the first day of the month.

Nov. 20th.—Firm and healthy granulations are rising from the bottom of the sac. Let it be filled with dry lint and the poultice omitted.

Nov. 22d.—Complains of some pain in the part, which is more tense. Let a poultice of bread and milk be applied.

Nov. 24th.—Inflammatory symptoms entirely removed. Discontinue the poultice, and dress with lint as before.

Nov. 26th.—The granulations are rather flabby. Let the following be applied.

R. Sulp. Cupri. one scruple.
Aq. Font. two oz. Solve.

Nov. 30th.—The solution has been frequently used, and the granulations have a firm healthy appearance; the ulcer or sinus has very much contracted.

December 12th.—I examined him particularly to day. The sinus looks very healthy, and is nearly closed, there is but a trifling vestige of tumour, only what seems occasioned by the contracting and shrivelling of the skin. He may now be said to have recovered.

I am indebted for some of the particulars of the first part of this case, to James Inderwick, Surgeon of the U. S. Brig Argus, who was then house-surgeon of the hospital; and for the latter part, to Charles Hasbrouck the present house-surgeon.

In this case, nature appears in the first instance to have set about the removal of the morbid enlargements by absorption, and which was carried on for some time. At length, this being insufficient, another process was instituted, which was suppuration and consequent ulceration; by which the whole of the offending cause appears to have been completely removed, and no doubt with the least expense to the system. There appears to me to be some analogy between this case, and that of Mary Edwards, the woman on whom Astley Cooper first operated. She died on the twentieth day after the operation, and it appeared from the dissection, that inflammation had been induced in the aneurismal sac and adjacent parts, which increased the size of the tumour, and, by its pressure upon the larynx, so impeded respiration as to occasion her death.

It occurred to me that it would be proper when the openings were first formed in this case, to have made a free incision into the tumour, removed the coagula, and secured the vessels upon the surface of the sac. Afterwards, to have filled the sac with lint, and healed it from the bottom. In reading A. Cooper's observations upon Mary Edwards' case, I find he has proposed the same thing.

With sentiments of esteem and regard

I am very respectfully

VALENTINE MOTT.

CONCLAVE CADAVERIS.

I.

Examination of a case of Intus-susceptio, accompanied with an unusual disposition of the abdominal viscera, and some of the organs in the cavity of the thorax ; by Wright Post, *Esq. Professor, &c.*

A child of Mr. S. one year old, was seized with symptoms which were supposed to arise from an ordinary spasmodic affection of the bowels. For the relief of these, all the usual remedies were employed, but without any good effect. The stomach soon became so irritable as to reject whatever was taken into it, and no evacuations could be procured from the bowels. After the complaint had continued three or four days, a tumour was observed projecting from the anus ; which, irritating the rectum, or giving a sense of fullness there, occasioned frequent efforts to force something from the body, and these efforts brought the tumour more and more into view. In this condition of the child I was requested to visit it.—The appearance of this tumour had of course excited a good deal of interest, and my attention, after learning the history of the case, was first directed to it. On passing my finger into the rectum, the sphincter muscle of which was remarkably relaxed, I found that the protruded part was the end of an elongated substance, extending up the rectum, entirely detached from its inner surface, beyond where the finger could reach. Reflecting upon all the circumstances of this case, I did not hesitate to pronounce it an intus-susceptio, and that the tumour protruding from the anus was one end of that portion of the intestine which was included in another. This opinion was verified by an examination of the body the next day,—the child having died the night after I was called in consultation. Upon fully exposing the cavity of the abdomen, I was immediately struck with the appearances which presented themselves. The liver was found in the *left* hypochondrium, with its two large lobes reversed, the largest being to the left. The spleen was found in the *right* hypochondrium, and divided into several lobes, slightly attached to one another; and in the neighbourhood were several smaller spleens. The stomach was situated principally on the right side of the spine, with its larger curvature above and the smaller one below. The small intestines had no peculiarity in their appearance, except great distension from flatus and other usual contents; but the colon (and six inches of the ileum) had entirely disappeared, except a small portion of it just above the brim of the pelvis on the *right* side. It was this intestine which had passed into the rectum, and had descended so low as to form the tumor protruding at the anus. As there was no appearance of the colon having been dragged from its usual course in the abdomen, it may be reasonably concluded, that its original situation was altogether on the *right* side, and that it had been less confined by attachments than is commonly the case; and that, in consequence, it had fallen down into the rectum.

The liver being on the left, naturally led to the supposition that there was a correspondent change in the relative situation of the aorta and vena cava, and this was found to be actually the case, the aorta was on the *right*, and the cava on the *left*.

The unusual appearances in the cavity of the abdomen, made me suspect that the thorax would exhibit something singular in the disposition of its contents. Accordingly the heart was found with its apex inclining to the right, in a degree equal to its ordinary inclination to the left. The curve of the aorta was made to the right instead of taking the usual direction to the left, and the artery continued down on the right of the spine, as observed in the cavity of the abdomen. Had the dissection been further prosecuted, I should, no doubt, have found the same change in relative situation between the aorta and vena azygos, as was noticed between the aorta and vena cava.

II.

Examination of a case of mesenteric hernia, communicated by Mr. James C. Bliss, *student of medicine.*

N. T. a native of Massachusetts, residing in Lansingburgh, aged 57 years, after lifting a barrel of cider from a cart, about 10 A. M. in Oct. 1811, was seized with symptoms resembling those which usually attend a violent attack of ileus,—a complaint to which he had been subject for several years. Dr. Burritt, of Troy, was called, and directed some cathartic medicine. He visited him again at 8 or 9 P. M. when the pain was found to have increased, and his distress had become very great. The pulses were eighty-five in the minute, full and strong. He had vomited several times since the administration of the cathartic, and had thrown it off from his stomach. Some cathartic pills were immediately administered, and the warm bath directed; and as his situtation appeared alarming, Dr. B. concluded to remain with him. In the course of the night he was bled, a blister was applied to the abdomen, and injections per anum were had recourse to. In the morning Dr. B. left him apparently somewhat relieved, although his symptoms were still urgent. In the course of the day, his complaints became much more aggravated; and when Dr. B. saw him in the afternoon, it was evident that remedies could be of no avail; he expired about 5 o'clock.

The next morning the body was examined, in the presence of Dr. Burritt and two or three other medical gentlemen. The abdomen was remarkably hard and distended. On laying open this cavity, the first object that attracted attention, was a large portion of the small intestines, in the umbilical and upper part of the hypogastric regions, unusually distended with air; they were of a dark purple colour; and their small bloodvessels very much en-

enlarged and filled with blood. There was also in the right hypochondriac region, a tumour of considerable magnitude, which was occasioned by the above mentioned intestines crowding the remaining portion of small intestines upward, in such a manner that the mesentery was drawn over them with almost the tightness of a drumhead; the whole having the appearance of a lusus naturæ.

On further examination it was found, that sixteen feet (by actual measurement) of the small intestines were protruded through an opening in the *mesentery*, about three inches from the junction of the ileum with the colon. This aperture was about 2 1-2 inches in length, and its margin consisted of a white, shining, hard substance, about six lines in thickness, which very much resembled a ligament. No marks of recent inflammation were discoverable near the opening, nor was there an appearance of effusion of any kind of fluid from the edges of the aperture. No adhesions had been formed between the intestines and the parts which they were in contact. The gut was completely strangulated.

The possibility of both layers of the mesentery being ruptured, together with the subsequent protrusion of the gut through the aperture, might reasonably admit of doubt, did not dissections prove the fact. I do not, however, recollect to have met with a case on record, attended with the laceration of *both layers** of this membrane.

A conclusion may reasonably be drawn, from the appearances on dissection, taken in conjunction with the symptoms which preceded, that the rupture must have been of long standing. The circumstance of the patient's having been frequently attacked with colic, must have arisen from some obstruction in that portion of the gut which was forced through the mesentery. The above opinion receives additional weight from the appearance of the margin of the opening, and the quantity of intestine found strangulated.

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* In vol. 2. p. 86. of Mr. A. Cooper's work on Hernia, is a case communicated by Mr. Palmer, in which " an opening was found *through* the mesentery." But as Mr. Cooper had just described (p. 82. 84.) mesenteric and mesocolic hernia as rupturing *one layer* only, we must suppose that Mr. P. has not stated his case with perfect accuracy. Ed.

Perhaps it may not be improper to suggest, that a portion of those cases of ileus which are so suddenly fatal, may be referred to causes similar in their nature to the case above related; it is evident, that in many instances, the rise, progress, and termination of this disease, cannot be referred to the usual exciting causes.

III.

Examination of a man who died from Pulmonic Disease, by Valentine Mott, M. D. &c.

D. R. has had several attacks of pneumonia, and for 8 or 9 years has been thought consumptive; has had considerable difficulty of breathing, particularly in going up an ascent; and was much emaciated: he died with symptoms of peripneumonia.

On examination, the right lung was found degenerated into a solid mass resembling liver, with a general and firm adhesion to the pleura lining the ribs, diaphragm, and mediastinum. The bronchial vessels were filled with a cheesy purulent substance. A portion of the lung cut out, sank in water. The left lung was natural.

The heart presented no unusual appearance, but the great arteries and veins leading from and to the heart, were all highly inflamed on their internal surfaces.

IV.

Examination of an Inguinal Hernia, by Valentine Mott, M. D. &c.

On examining the body of a woman, the following appearances presented themselves. In the right groin was a tumour about the size of a small hen's egg, which was the sac of a reducible, indirect, or common inguinal hernia. When the abdomen was opened, the jejunum and ileum, and particularly the former were very much distended with flatus, and at least three inches in diameter. The small intestines were settled lower down, and particularly in the right groin; at which place a portion of the ileum was of a dark brown colour for several inches in extent, and in a state of complete mortification. The intestine going into the internal abdominal ring, was so tender as to be torn from its situation, notwithstanding the great care that was used in the examination. On opening the hernial sac, the cavity presented a smooth and uniform appearance, containing a very small quantity of serum. No intestine appearing in the sac, the inguinal canal was next examined, and found to put on the same appearance as the sac, and empty. At the internal ring, the intestine was found confined by a membranous band,—which extended across it from above downwards, and which occasioned the strangulalation. A truss was worn at the time of her death.

The membranous band was very firm, and completely bridled the intestine. The hernial sac was so much thickened, as to put on the appearance of its having been a reducible hernia of some time standing. At some period when the hernia was down, inflammation must have been induced about the internal ring or neck of the sac, by which this band was formed, and the intestine afterwards prevented from returning into the cavity of the abdomen. The mortified portion of intestine which is confined by the band, can be moved freely under it.

V.

Examination of a Schirrous Stomach, by VALENTINE MOTT, M. D. &c.

M. W. a female aged about 50 years, has been affected with pain in the epigastric region for four years, attended with cardialgia, dyspepsia, and frequently vomiting, especially after a meal. At the time I saw her, she complained of great distress, and occasionally a darting pain shooting through the region of the stomach, costiveness, and vomiting directly after taking food. She had taken tonics, and a variety of other medicines, but without any permanent good effect. After blistering the epigastric region from time to time, and using some of the different preparations of iron quassia, &c. with only temporary benefit, I prescribed the white oxyd of Bismuth, which produced the greatest relief; it lessened the vomiting and pain so much, that it was thought a cure was about to take place. Though it was regularly increased in quantity, after a little time it appeared to lose its effect, and all the symptoms to be renewed and aggravated. The matter vomited at the time I first saw her, was of a blackish mucous appearance, mixed with a great quantity of water. Several pints of this would be discharged from the stomach in the course of twenty four hours; this became of a darker and darker colour towards the close of the complaint, and for some weeks before death, of a very offensive smell.

I discovered several months before her death, that there was a hardened substance in the situation of the stomach, and as I could distinctly feel the shape of this viscus, I did not hesitate to inform her friends, that her whole stomach was in a state of complete schirrus. The emaciation was the most extreme that I ever witnessed in any case, which enabled me to feel more exactly the state of the stomach. She occasionally showed some hectic appearances, but they were trifling and by no means regular.

I examined the body twenty four hours after death. On opening the abdomen, the first thing that presented, was this hardened mass, which was the stomach. It was flattened anteriorly and posteriorly, of the shape and size of the healthy stomach in an empty state. It was of a hardened cartilaginous feel and look. The spleen was firmly attached by the whole of its inner edge, to the great extremity of the stomach, and much diminished in size. To the small curvature of the stomach a considerable portion of the lesser lobe of the liver was firmly united; and at the posterior and lower surface the pancreas was attached. It was laid open along the great curvature, from the cardiac to the pyloric orifice; the thickness varied from half an inch to three quarters, it was very hard and in several places, points of calculous or ossific matter were observable, which grated when the knife passed through them. The cavity was small, but filled with the black sooty matter, which when scraped or washed off, left the whole internal surface in an ulcerated state. The black matter had a very offensive smell The œsophagus was a good deal hardened and thickened for an inch or two above the cardia ; the duodenum was perfectly natural at its origin from the pylorus. The other abdominal viscera were natural. A considerable quantity of the black mucous was in the intestines, and particularly in the large ones. The stomach is preserved in my collection.

VI.

Examination of the Brain, after death ; from several cerebral diseases, by HENRY U. ONDERDONK, M. D.

B. V. a black man aged about 25, had been for some years afflicted with epilepsy, and paralysis of the left side. His mind had not appeared to suffer derangement. He died without convulsions.

On examination of the brain, the left lateral ventricle was found to contain an ounce of serum not discoloured ;—this was the only disease on the left side of the brain. The right lateral ventricle contained full two ounces of serum, high coloured but not bloody, and was greatly enlarged, encroaching posteriorly on the left ; so that there could not have been any *natural* foramen Monroianum. In the right hemisphere were found two cells, such as are supposed to follow apoplexy, one larger than a dollar, and the other not quite so large. While supporting the hemisphere in the hand for the purpose of further dissection, it gave way, and discovered a layer or surface of a dissolved (scarcely purulent) appearance, on which was situated a tumour fully as large as a black walnut. This was found to consist of an extravasation of blood in the substance of the brain. Several small apoplectic cells were found under the tumour. The pineal gland was without gravel. The plexus choroides pale.—There were no other diseased appearances.—The veins of the pia mater not in the least over-distended.—The substance of the cerebrum firm, but not preternaturally so.—The cerebellum natural.

In the chest,—the left lung was degenerated into a tough mass of a cellular texture, and of a chocolate colour.—In the abdomen, there was no visible disease.

VII.

Examination of a man who died from the bursting of an Aneurism of the Aorta, by Henry U. Onderdonk.

Arthur Scott, a black man, living in Essex street, first perceived a throbbing sensation in his chest, in the latter part of 1811; it was attended with some pain, and could often be felt on the outside. He was bled for its relief, and even blistered, and salivated! In March 1813, a tumour "came through," and formed upon his back, between the scapula and spinous processes of the vertebræ, slightly elevating the former. When first noticed, it was as large as a tea-cup, but it continued to grow larger and more painful; feeling "as if thorns were pricking him;" and affecting his breathing.

July 6th, 1813, I first saw him, by request of Dr. Rockwell. The tumour is as large as a pint bowl, and may be compressed to two-thirds its size, but instantly returns when the fingers are removed; it appears to have little but the skin for its covering; and the pulsation is very strong. There is a beating anteriorly on both sides of his breast. Along the course of the arteries there is a peculiar *shew* of pulsation, which is not confirmed by *feeling* the pulse.

No prescription was made, except low diet and occasional bloodletting; the latter seldom failed to afford temporary relief. The pain became excruciating, the tumour continued to increase; the skin over it became smooth and glossy, but did not either crack open or mortify; and on the 10th of August, he died suddenly in the afternoon.

August 11th, This day, fourteen hours after death, I opened the thorax, in presence of Drs. Rockwell and Stillwell, and my pupils. More than two quarts of discoloured serum were taken from the cavities of the pleura, chiefly from the left; from the latter cavity was also taken, a firm coagulum, estimated at three pounds. The left lung was sound; except at the posterior, superior, inner part, where it adhered to the pleura costalis for a considerable space; within this space, the lung was destroyed, and formed part of the aneurismal sac. The right lung was also sound, and free from adhesion. The aorta, to its arch, was enlarged to full two inches in diameter; and on its anterior part was a spot of squamous, callous, aneurismal structure, as large as a quarter-dollar. The mouth of the sac of the aneurism was at the curvature of the aorta, and was large enough to admit three fingers. It appeared to have first adhered to the upper part of the left lung in contact with it, and then to the pleura costalis at the angles of the 3rd, 4th, and 5th ribs. The third rib was absorbed through half its width, for the space of an inch or more, the fourth was entirely absorbed for the same space,—also the fifth. The edges of these ribs were in part spiculated, and partly as smooth as if sawed. The exact place of rupture could not be ascertained, on account of my not being allowed to dissect with sufficient freedom. But from the situation and course of the coagulum, I believed it to be at the lower posterior edge of the junction of the sac with the artery. The sac was very thickly lined with lymph and coagula.

The pericardium contained two ounces of serum. The heart was externally of a natural appearance, and without fat. The sides of the left ventricle were twice as thick as they usually are. The right ventricle, and all the valves, &c. were natural.

Had the tumour been measured before death, it would probably have made a tolerably regular oval, 8 inches long, 6 broad, and 4 or 5 high.

INTELLIGENCE.

FOREIGN.

Outline of Dr. Young's system of practical nosology, from the Quarterly Review.

CLASS I.	Paraneurismi, nervous diseases. (Consisting chiefly of the Neuroses of Cullen.)
CLASS II.	Parhæmasiæ. Sanguine diseases.
ORDER 1.	Phlogismi, Flushes, (chifly simple inflammations.)
ORDER 2.	Pyrexiæ. Fevers.
CLASS III.	Pareccrises. Secretory diseases.
ORDER 1.	Epischeses. Retensions of various kinds.
ORDER 2.	Apocenoses. Effusions of various kinds.
ORDER 3.	Cacochymiæ. Cachexies, or vitiated secretions, (as dyspepsia, podagra, diabetes.)
CLASS IV.	Paramorphiæ. Structural diseases.
ORDER 1.	Paraphymata. Local changes, (for instance, tumours.)
ORDER 2.	Epiphymata. Eruptions, (chiefly cutaneous.)
CLASS V.	Ectopiæ. Displacements, (including surgical and obstetrical cases.)

From the (London) Monthly Magazine.

In the Croonian Lecture on some physiological researches, respecting the influence of the brain on the action of the heart, and on the generation of animal heat, Mr. Brodie has shown, by a number of well-conducted experiments;

1. That the influence of the brain is not directly necessary to the action of the heart, for by means of artificial respiration the action of the heart was continued for a considerable length of time after the head was cut off. Indeed, many phenomena previously known, such as the length of time that the hearts of some animals continue to beat after they are taken out of the body, rendered this conclusion unavoidable.

2. That, when the brain is injured or removed, the action of the heart ceases only because respiration is under its influence; and if, under these circumstances, respiration is artificially produced, the circulation will still continue.

3. That when the influence of the brain is cut off, the secretion of urine appears to cease, and no heat is generated; notwithstanding the functions of respiration, and the circulation of the blood continue to be performed; and the usual changes in the appearance of the blood are produced in the lungs.

4. That, when the air respired is colder than the natural temperature of the animal, the effect of respiration is not to generate but to diminish animal heat.

In the account of some further experiments, lately read to the Royal Society, he concludes as follows:—"These experiments appear to warrant the conclusion, that, in an animal in which the brain has ceased to exercise its functions, although respiration continues to be performed, and the circulation of the blood is kept up to the natural standard; although the usual changes in the sensible qualities of the blood take place in the two capillary systems, and the same quantity of carbonic acid is formed as under ordinary circumstances; no heat is generated, and (in consequence of the cold air thrown into the lungs) the animal cools more rapidly than one that is actually dead. The facts now, as well as those formerly adduced, go far towards proving, *that the temperature of warm-blooded animals is considerably under the influence of the nervous system.*"

From the same.

Since the departure of professor Berzelius from England, he has written to a chemical friend in London, announcing that he has succeeded in decomposing nitrogen, which he has reason to believe, from his analysis, to be a compound of about 45 parts of a new species of inflammable gas, and about 55 of oxygen.

From the same.

A report was lately made to the imperial institute, in which it is stated, that out of 2,671,662 subjects vacinated in France, only seven authenticated cases appear, of patients having afterwards taken the small-pox.

We are indebted to Dr. A. H. Stevens, for the following notice of an amputation at the hip-joint, by M. Larrey.

"The operation was performed on a patient aged 12 years. The cause which rendered the operation necessary, was a disease of the femur, with irreparable disorganisation of the soft parts high up the thigh.—The patient's buttocks were brought to the edge of the table, while the body was supported in a half-recumbent position.*—The thigh was extended, and the femoral artery tied by a single ligature, near its exit from under Poupart's ligament. The thigh was now inclined toward the abdomen, and supported by an assistant with one hand at the outer part of the buttock, and the other above the internal condyle. Just within the incision made for securing the artery, M. Larrey entered the point of a long, narrow, and straight knife, which he pushed forward, grazing the trochanter minor with the back of the blade, (its edge being directed inward and downward,) until the instrument came out at the inner part of the buttock. The knife was then made to cut itself out, at a place one third of the distance from the pubis and inner condyle. The assistant turned the limb outward,—the capsular and round ligaments were divided,—the knife was passed a little way along the outer part of the femur, and its edge was then gradually inclined outward, and the incision continued outward and downward, in such a manner as to make the outer flap correspond with the former. Four or five bleeding vessels were taken up, and the lips of the wound brought together in the usual manner. The patient recovered, and enjoyed good health many months after."

A letter from Mr. Edward Post to his father, has afforded us the following intelligence.

"The actual cautery *(ferrum incandescens)* is at present a favorite remedy in France.—M. Dupuytren has used it with success in ulcers of the extremities affected with hospital *pourriture* (gangrene.)—M. Maunoir of Geneva, has been successful with it in cancerous ulcers on the face, where the disease appeared to be purely topical. The part affected was first removed with a knife, and the iron then applied.—He has even cured bad scrofulous ulcers on the throat in the same manner, however omitting the first part of the operation."

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* "The French surgeons commonly place their patients in a half-reclining posture, and their tables are very conveniently adapted to this purpose, by having a hinge in the center."

DOMESTIC.

A case of femoral aneurism (just below the groin) was received into the New-York hospital in October last. At that period, it was of the size of half a goose-egg ; it could be nearly emptied, and it filled again very quickly, but not instantly. When felt, it occasioned a thrilling sensation as in varicose aneurism. Compression was applied as a means of cure ; since which, the tumour has become more diffused, and is harder. The pulsation has subsided but little, and the thrilling is still very perceptible. It seems to be extending under Poupart's ligament, which is stretched upwards very tightly.—This plan was given up a short time since, and the operation proposed, to which the patient has not yet consented.

An incisor tooth which has been broken and re-united, is in possession of Dr. H. U Onderdonk. It was extracted from the upper jaw of a child about 7 years old, some months after she had broken it by running against a log of wood in the cellar. It appears to be of the second set, as the edge is not the least worn, and has the triple division. The fang and body are at a right angle, and the union appears to be by callus. It has been shewn to the surgical professors of the College of Physicians and Surgeons ; two of whom agree with Dr. O. in regarding it as proving the vascularity of the tooth ; but the other considers the callus as afforded by the pulp not yet obliterated.

Dr. Dorsey's "*Elements of Surgery,*" in 2 vols. have been just received by Collins and Co. From a cursory survey and particularly from the plates, we judge that it contains the different American improvements in surgery, for many of which we are indebted to his kinsman Dr. Physick.

The two American editions of *Henry's Chemistry*, with notes and additions by Professor SILLIMAN, of Yale College, being nearly all sold, Thomas & Andrews of Boston, intend re-publishing the late London edition, in 2 vols. 8vo. in which the author has introduced numerous and important improvements. This third American edition will also be revised and enlarged by Professor Silliman.

The "*Medical Writings*" of the late Dr. EDWARD MILLER, have been delayed in their publication on account of the indisposition of the Reverend Editor. We are, however, requested to state, that they will probably appear in the course of a month or two.

Dr. TASSO of this city, has issued proposals for publishing a work on bandages, and other surgical subjects, with plates, calculated particularly for surgeons in the army and navy.

We are requested to state that PROPOSALS for an *Encyclopedical Dictionary*, to be translated from the French, and comprised in 2 vols quarto. with a volume of plates, are now circulating for public patronage.

OBITUARY.

Died, on the 21st Dec. 1813, in the 58th year of his age, Dr. JOHN WILSON, for many years a respectable practitioner in this city.

Communications for the NEW-YORK MEDICAL MAGAZINE, *are respectfully solicited.*

THE

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AND EDITED BY

VALENTINE MOTT, M. D.

AND

HENRY U. ONDERDONK, M. D.

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REVIEW.

I.

Experiments on the Principle of Life, and particularly on the Principle of the Motions of the Heart and of the seat of this Principle; including the report made to the first class of the Institute upon experiments relative to the Motions of the Heart. By M. Le Gallois, *M. D. P. &c. &c. Translated by* N. C. *and* J. G. Nancrede, *M. D. Philadelphia, by* M. Thomas, 1813.

We are happy to acknowledge our gratitude to the translators of the very interesting work of M. Le Gallois now under consideration. Some of his experiments were concisely noticed in a communication from Dr. Warden of Paris to Dr. Mitchell of this city, and were translated and published as early as 1811; but the mere mention of the experiments, with the conclusions of the author, were not sufficient to establish as *facts*, such important principles in Physiology. Dr. Ives next gave a short, but luminous view, of the curious and novel doctrine of Dr. Le Gallois, in his Experimental Inquiry into the proximate cause of death, &c.*

Theories on this subject should be cautiously received, as they have generally been hypothetical and fallacious. Physiologists have as assiduously sought for the seat of life, as the alchymist for the philosopher's stone; and until our author, they have not been more fortunate hitherto in the result of their labors. In their attempts to investigate the influence of the *nervous* system, their inquiries have been particularly perplexing and unavailing. Without any definite knowledge of the functions of the different parts of the brain and nerves, and without any adequate comprehension of the intricate connexion between mind and matter, opinions for ages have been successively embraced and rejected; still our knowledge of the brain is, and perhaps ever will remain, vague and imperfect. We may suppose that one portion of this organ is the habitation of the understanding, and another the seat of the will; but imaginary conjectures will probably ever be the summary of such knowledge, as the truth can never be elucidated but by accident or disease. Besides the perplexity peculiar to metaphysical researches, we are embarrassed in the prosecution of this subject, by the impossibility of advancing our knowledge by experiments on the human subject, in which alone all the faculties of the mind are developed. But *other* principles in physiology may, like the character of diseases, and the virtue of medicines, be investigated and improved by observation and experiment; and from the ingenious researches of our author, we cherish the belief, that the source and principles of animal life, which have so long been the subject of unavailing inquiry, are now demonstrably defined. By his very ingenious experiments on the Principles of Life he has attempted partially to analyze, experimentally, the functions of the nervous system: (i. e.) to ascertain *the source of sensation and motion; the principle of the motions of the heart and lungs and to investigate the recipriocal influence existing between the nervous and sanguiferous systems.* Led, as it were, step by step, by the light of one discovery to the investigation of another, he follows that inductive mode of inquiry, which clearly evinces truth to be the object of his pursuit. The interesting memoirs which compose this volume, were read at different times by the author, before the first class of the Institute, and the society of Physicians of the Faculty of Medicine of Paris. In the first section is the result of a series of experiments on the seat of life, which were suggested to the author by an accidental occurrence in a case of parturition. While attempting to ascertain the length of time a fœtus of mature birth would live without breathing after the communication with the mother had ceased; he was led to inquire why death was immediately produced by decolation. As it was usually supposed to be by the annihilation of the cerebral influence, rather than by hemorrhage, his object was to ascertain the manner in which this influence supported the life of the trunk. He remarked that in decapitated rabbits, life continued in the trunk, and that sensation and voluntary motion subsisted the same length of time, as in rabbits of the same age reduced to a state of asphyxia. That in both cases the duration of life was in an inverse ratio, to the age of the animal. Thus, in the new-born rabbit, signs of life remained after an asphyxia of fifteen minutes; but in those of thirty days old, all sensation and motion ceased in two minutes. The only difference in the phenomena attending asphyxia and decapitation was, that in the former, the last signs of life were inspiratory motions in the ribs and thorax; whereas, after decapitation, all efforts to inspire instantly ceased, excepting the head, which continued gaping.

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* See an Experimental Inquiry into the proximate cause of death, in Suspended Respiration in drowning and hanging, with the means of Resuscitation—by Ansel W. Ives, M. D.—New-York, 1814.

He observed also, that if instead of decapitation the spinal marrow was separated between the occiput and the first cervical vertebra, the phenomena that occurred were precisely the same, viz. all inspiratory motions were annihilated except the gapings of the head. Hence he concludes that after cutting off the head, or dividing the spinal marrow at the occiput, the animal was only in a state of asphyxia; and that he was so, because he had not the power of introducing air into the lungs. This conclusion was readily confirmed by inflating the lungs, and thus substituting artificial respiration; for, though sensation and motion had previously ceased, they were immediately restored by this operation. He was now led to believe the usually received opinion, that sensation and voluntary motion resided in the brain, was incorrect. His attention was therefore directed to the functions of the spinal marrow. The result of his cruel but ingenious experiments on this organ, will be given in his own words.

"If in a decapitated rabbit which has been most completely revived, and which is kept alive by the inflation of the lungs, the medulla spinalis be destroyed, by pushing an iron rod through the whole length of the vertebral canal, all the phenomena of life instantly disappear, nor is it possible to restore them by any means; only those of irritability are left, which it is known always continue some time after death. If another rabbit be taken, and, instead of decapitating it, a simple incision be made in the vertebral canal near the occiput, and an iron wire be introduced through this opening, destroying the spinal marrow, although in this case the brain continues untouched as well as all its nervous communications with the trunk, life will, nevertheless, instantly and irrevocably disappear in the trunk; it only continues in the head, as is indicated by the gapings.—Finally, if another rabbit be cut in two, each portion, as well as the head in the preceding experiment, remains alive for several minutes, varying according to the age of the animal, which I shall point out hereafter. If immediately after the division has been made, the whole medulla spinalis is destroyed in either of these portions, life instantly disappears in it, whilst it continues in the other; and if this portion of the spinal marrow be destroyed, all the parts which receive their nerves from this portion, are struck with death at the same time, while the remainder of this same portion continues alive.

These experiments prove not only that the life of the trunk is dependent upon the medulla spinalis, but they also prove that the life of each part is specially dependent upon the portion of the spinal marrow from which it receives its nerves. Besides, it is easy to demonstrate that the source of sensation, and of all the voluntary motions of the trunk, exclusively belong to the spinal marrow, and that none of the viscera of the chest or abdomen have any immediate share in it.—For if you open the thorax or abdomen of a rabbit and tear out the heart, the lungs, the diaphragm, the intestines, all the viscera of these two cavities, it will continue alive after this cruel operation; and besides, if you cut off its head, although then reduced to its skeleton, to its spinal marrow and muscles, it is still living; but if partially or entirely you destroy the spinal marrow, it is immediately struck with death which is either partial or general.

It is certain, therefore, that the life of the trunk has its immediate principle neither in the brain, nor in any of the viscera of the breast or abdomen; but it is no less evident that all those viscera are indispensable to maintain it. Now, considering the relations in which they stand, the foregoing facts evidently prove, that as to the cerebrum, the mechanical phenomena of respiration, that is, those movements, by which an animal introduces air into its lungs, are produced by the immediate action of that organ.—Thus it is principally, inasmuch as the maintenance of life depends upon respiration, that it is dependent upon the brain; and here arises a great difficulty—The phrenic and all the other nerves of the muscles employed in the mechanical phenomena of respiration, arise from the spinal marrow in the same manner as those of the other muscles of the trunk. How happens it then, that after decapitation, respiration is destroyed, while all the other motions continue? this is in my opinion one of the great mysteries of the nervous power—a mystery that will be discovered sooner or later; and the discovery of which will throw the greatest light upon the mechanism of the functions of this wonderful power.*

But, whatever be the organic arrangements, through the medium of which the mechanical phenomena of respiration are produced by the brain, this dependency is unequivocal; and it is further ascertained that it is through the spinal marrow that it is exercised. For, as I have already observed, if the spinal marrow be simply divided near the occiput, the animal is exactly in the same state as if its head had been cut off.

It is not upon the whole of the brain that respiration depends, but upon a particular and small part of the *medulla oblongata*, situated at a small distance from the occipital foramen, and near the origin of the nerves of the eighth pair (pneumo gastric)—for if we open the cranium of a young rabbit, and extract the brain in successive portions, beginning by the anterior part, cutting it into slices, we may then take away the whole cerebrum, then all the cerebellum, and part of the medulla oblongata, without stopping respiration. But it instantly ceases when we cut the origin of the nerves of the eighth pair." page 47, &c.

Upon this curious and novel doctrine, the author proceeds to account for the life of cold blooded animals, months after decapitation. He supposed the life of these animals also to reside in the spinal marrow; and that in them the same portion of the brain supported respiration as in warm blooded animals—that as they suffered but little by hemorrhage, they would live after decapitation until they died of inanition, if that portion of the medulla oblongata were not destroyed which gives rise to the eighth pair of nerves. This opinion was confirmed by experiments on salamanders. When all the brain was destroyed above the occipital foramen, they would live for months; but when the section was made lower down, including the origin of the eighth pair of nerves, death ensued much sooner. Now, as inflation of the lungs supplies the place of natural respiration, the question arises, Why warm blooded animals cannot be kept alive by that means, till they die of inanition after any decapitation? The answer is briefly given in the following paragraph, "It is to be remarked that not only the mechanical phenomena of respiration depend upon the brain, but the peculiar functions of the lungs are also produced by it, through the nerves of the eighth pair, and it appears that both depend upon the same part of the brain; for, as we have already seen, the place in the medulla oblongata, where the primum mobile of the mechanical phenomena of respiration resides, includes the origin of the nerves of the eighth pair. Now we know that the section of those nerves, without any other wound, kills animals more immediately than abstinence." page 56,

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* Some facts, observed in the course of my experiments, lead me to believe that the accessary nerve of the eighth pair, acts a principal part in this state of dependency, in which respiration is found to be upon the brain. This nerve has a singular distribution and course, which undoubtedly have a relation to some use which no one has hitherto been able to elucidate.

Hence he concludes that warm blooded animals may be kept alive by artificial respiration, the same length of time that they will live after the section of the eighth pair of nerves; but cold blooded animals will live longer, as in them respiration is partially supplied by breathing through the skin, (as is proved in another part of the work.) He concludes, therefore, that the brain is indispensable to the support of life, because it incloses the primum mobile of respiration; to the lungs and heart is ascribed the office of imparting to the blood its arterial character, and distributing it through the different parts of the body; to the abdominal viscera the province of repairing the waste, which this fluid continually undergoes, by the various secretions. Now as sensation and motion have but a limited duration, after the blood has stopped circulating, or after it has lost its arterial character, he supposes "that life results from the impression of arterial blood in the body. We have seen that the brain and the spinal marrow are the sources of sensation, of motion, in short of every thing that constitutes life. It may therefore be asserted, that general life, the existence of the individual, is produced by a certain impression of the arterial blood upon the brain and spinal marrow; an impression which, when once made, has always a duration which is longer or shorter according to the species and age of the animal; so that life can only be maintained by the continual renewal of this impression, nearly in the same manner as a body moved by the power of a first impulse cannot continue to move indefinitely unless this impulse is repeated at intervals. If this be the case, whenever this renewal is interrupted in any portion of the spinal marrow, life, after having continued for a longer or shorter time, yet determined according to the age and species of the animal, in those parts receiving their nerves from this portion of the medulla, must be entirely extinguished. This is what we, in fact, observe, when we tie the vorta of a rabbit towards the posterior part of the breast or the anterior part of the belly. Sensation and movement subsist at first in the posterior part, but they weaken by degrees more and more, and soon after wholly disappear." Page 58, 59.

From the foregoing facts, which are stated in the first section, the author infers the belief, that the maintenance of life in any part of the body essentially depends upon two conditions—One, the integrity of the corresponding portion of the spinal marrow, and its nervous communications; the other, the circulation of arterial blood in this part. As long as these conditions remain in full force, he supposes life may be preserved in any section of the body.

In his second memoir he has confirmed this supposition by direct experiment. By introducing an iron probe into the vertebral canal of rabbits, he destroyed at various times, in separate animals, the cervical, dorsal, and lumbar portions of the spinal marrow, and in all cases sensation and motion were instantly annihilated in that section of the body, corresponding with the portion of spinal marrow destroyed; while life continued in the other sections of the body for a longer or shorter time, varying in proportion to the age of the animal, as before observed. In these experiments, which were often repeated, all signs of life disappeared sooner after the destruction of the medulla cervicalis, than when the dorsal or lumbar portions were destroyed; but by a simultaneous destruction of the three portions, life in the body in all cases instantaneously ceased, the gapings of the head only continued. From these experiments he was led to believe, that every portion of the spinal marrow exercised on life two distinct modes of action. In one it constitutes life essentially in all parts which it supplies with nerves, in others it contributes to the maintenance of it, in all those which receive theirs from the spinal marrow."

The author's next inquiry was, How the two conditions which he supposed sufficient to maintain life in any part of the body, viz. the integrity of the spinal marrow, and the circulation of the blood, were effected by the last mode of action? After cutting transversely the spinal marrow of a rabbit, between the last dorsal, and first lumbar vertebra, sensation and motion continued both in the anterior and posterior parts of the body, but no connexion existed between them. When one of the hind paws were irritated all the hind portion became agitated, but no effect was produced on the fore part; and *vice versa*. Thus, by this section, two distinct centres of sensation were produced, so that fifteen or twenty minutes after, when the animal was perfectly alive, the destruction of all the lumbar portion of the spinal marrow produced no immediate effect upon the anterior part of the body, though by this operation life was wholly extinguished in three minutes.

Having proved that the destruction of one portion of the medulla spinalis had no effect upon the integrity of the remaining portions, he was now led to examine its effect upon the second condition; viz. the circulation of the blood. To suppose the power of the heart to be derived from the spinal marrow, was to doubt the correctness of the well established theory of Haller. But with a boldness and decision, peculiar to himself, our author tenaciously follows the light of experiment without being deterred by theoretical prejudices. It was known that the motions of the heart continued after the destruction of the spinal marrow, but as it was known that they continued also after death, and even after the heart was detached from the body; it was presumed that these motions were without power, and that the contractions of the heart, after the destruction of the lumbar portion of the spinal marrow, were too feeble to continue the circulation. This presumption he now proceeds to prove— After a laborious inquiry, he ascertains what signs infallibly show the exact time the circulation stops. His ingenious experiments on this subject, as well as the subsequent experiments on the spinal marrow, are too numerous to be detailed in this paper; the result of the latter only will be briefly noticed.

By a section of the spinal marrow of a rabbit, below the occiput, sensation was extinguished, and the circulation stopped, but by inflating the lungs they were both restored. In thirty-two minutes after the section of the spinal marrow, decapitation was performed above the first cervical vertebra. The head continued to gape for several minutes, the inflation of the lungs was renewed, and at fifty minutes sensibility and circulation continued. An iron probe was now passed through the whole length of the vertebral canal, which instantaneously annihilated all sensation and motion, the body became flaccid and the circulation stopped: at fifty one minutes inflation produced no effect. In another rabbit the whole of the spinal marrow was destroyed without decapitation, in the same manner as the last. The whole body was immediately flaccid and dead. At four minutes the lungs were inflated, but produced no signs of life. This experiment was often repeated with the same effect. When the medulla cervicalis was alone destroyed, life was immediately extinguished in the anterior part of the body, but continued in the rest; the circulation which continued very weak, was accelerated four minutes after by inflation: in eleven minutes all signs of life in the body ceased. In another rabbit the dorsal portion of the spinal marrow was alone destroyed; the head, neck, and hind part continued alive, the middle part instantly died—the circulation was weakened: at fifteen minutes it continued to live and breathe; the circulation still continued. In another rabbit the lumbar portion of the spinal marrow was alone destroyed; all the hind part of the body instantly died—the rest continued alive: at fifteen minutes the circulation continued and the animal supported itself upon its fore legs.

The foregoing experiments were made on rabbits the day of their birth; they were afterwards repeated on those that were ten days old, and again on those that were twenty days old. In both cases the result was similar—the duration of life being always in an inverse ratio to the age of the animal. He concludes, therefore,

"That the destruction of the spinal marrow suddenly stops the circulation, and that consequently the motions of the heart derive all their power from the medulla spinalis. Those which still subsist, either after this destruction, or after the heart has been freed from the action of this nervous power in any other manner, and which have deceived Haller and the authors of his school, are motions without power, and perfectly analagous to the irritable motions, observed in the other muscles for a longer or shorter time after death. In the latter, those motions only take place when the muscle or the nerve distributed to it, is directly stimulated; and one stimulus only produces one motion. In the heart the motions are repeated spontaneously, because the blood it contains is its natural stimulus. It is further demonstrated, that the heart receives some of its power indiscriminately from every part of the spinal marrow. Of the two modes of action, which each portion of the medulla exercises upon life, one by which it constitutes essentially all the parts which receive their nerves from it, the other by which it contributes to maintain it in the rest of the body; the latter therefore depends upon the powerful influence which it exercises upon the motion of the heart." p. 110.

By a great number of experiments the author has clearly demonstrated, that it is not from a particular portion of the spinal marrow that the heart derives its power, but from the whole. Death ensued soonest after the destruction of the medulla cervicalis; but after this experiment, when rightly conducted, life continued many minutes: hence he concludes that as the heart receives most of its nervous filaments from the great sympathetic nerve, that it is only through that nerve that it can receive its energy from every point of the spinal marrow; and that as the organs which this nerve supplies, derive their power from every point of the spinal marrow, and not from the brain, it explains why the actions of these organs continue through life uninterrupted by the will. Having shown that sensation and motion have their source in the spinal marrow, and that the circulation of the blood exclusively depends upon this organ, he proceeds to examine the effects of arterial blood in the support of life. This he determined by interrupting the circulation with ligatures upon the aorta. From a number of these experiments one only will be detailed to exemplify the result of the whole.

"I performed anew the ligature of the abdominal aorta, by opening the belly of a rabbit thirty days old. I passed a thread under the aorta, and tied it immediately below the cœliac artery, which nearly corresponds with the beginning of the lumbar vertebræ. Motion and sensation disappeared in the hind parts in about two minutes and a quarter, but the forepart continued alive—The animal supported itself on its fore feet, carried its head well, and respiration was performed with ease. Fifteen minutes after it was still in the same state; the flaccidity and absolute insensibility, and in a word the apparent death of all the posterior parts, left no doubt that the lumbar portion of the medulla spinalis had entirely lost its action, and no longer contributed in any degree to the maintenance of the circulation. Nevertheless, to obtain a more direct proof, I destroyed it at the period of fifteen minutes; the animal appeared perfectly sensible, upon the introduction of the probe in the vertebral canal, between the last dorsal and the first lumbar vertebra; but it manifested no further signs of pain, the moment the instrument had penetrated as far as the lumbar vertebra; and this destruction, which, at the instant when it is performed, is always accompanied with strong convulsions in the hind part, when the influence of the spinal marrow is unimpaired, did not produce the slightest motion—a certain proof that all this portion of the medulla spinalis was dead." Page 113.

It has been observed, that after decapitation the *mechanical* phenomena of respiration is only supplied by artificial inflation, and that the brain exercises a second mode of action on the lungs through the medium of the eighth pair of nerves. In the author's third and last memoir he proceeds to investigate the functions of these nerves. He finds that the cause of death, which had ensued after their division, had by various authors been placed in three different organs, the heart, the stomach, and the lungs. From previous experiments he was led to believe that the effect was most immediate upon the latter and that the time life continued after the operation was in an inverse ratio to the age of the animal, the same as after ordinary asphyxia. But this last opinion did not comport with the result of subsequent experiments. He divided the par vagum in a number of young dogs all of which died in less than half an hour after the operation with symptoms of asphyxia. This unexpected occurrence was afterwards accidentally explained. The author was one day making an experiment upon a little dog and to prevent his cries, cut the recurrent nerves, which to his astonishment produced all the phenomena that followed the division of the eighth pair. On reflecting that the recurrent nerves were necessarily divided in cutting the par vagum he was satisfied that death was produced by the same cause in the last, as in the former animals. He divided the recurrents in another dog, which immediately produced all the signs of asphyxia, but before sensibility was extinguished an opening was made into the trachea and the animal soon recovered. By frequently repeating this experiment he demonstrated that the division of the recurrent nerves produced suffocation by paralyzing the arytænoid muscles, and thus relaxing the ligaments of the glottis. But contrary to a pre-conceived opinion it was found that this effect was only produced in young animals, that the dispnæa was less considerable as the animal was older, and that at three months old the animal would not die. He was now led to an explanation of the sudden case of death, which some authors had observed after the division of the par vagum, the effect evidently having been complicated with that produced by the division of the recurrents, for those who were so particular as to notice the age of the animals subjected to experiments, observed that they were cats and dogs, that were newly born. By first dividing the recurrent nerves, and then making a large hole in the trachea and taking away the piece so that respiration might be restored, he was enabled by subsequent experiments to determine correctly the functions of the par vagum. From all his experiments on this nerve he concludes that by destroying it the heart, the stomach, and the lungs are all affected, but the latter most immediately and fatally—that the effect upon the heart, though it cannot be precisely determined, is not such as to stop the circulation or suddenly to produce death. That the stomach suffers more violently as digestion is stopped, but that death comes on at a period, and with such a series of symptoms, as does not permit us to place its cause in this organ.

Finally that—" these symptoms are those which depend upon an affection of the lungs; they are the most remarkable and the most constant which we observe in the experiment in question. Respiration is deep and laborious, and becomes so more and more—it sometimes takes place with a frothy noise, which can be heard in the thorax. The arterial blood assumes a darker hue and the animal loses its heat. After death we find the lungs swelled with air, partly filled with blood and partly with a serous and often frothy fluid, and inspection of them clearly shews that the exterior air could no more penetrate, or if it did, it was in a very small quantity. The formation, not sudden, but progressive, and more or less rapid, of the sanguine engorgement, and of the serous effusion in the lungs, accounts for the ever increasing progress of dyspnea.

From all these facts, we may conclude that the division of the par vagum kills animals by producing asphyxia, and that asphyxia may take place in three different manners:—1st. By the diminution of the aperture of the glottis—2d. By the sanguine engorgement of the lungs—3d. By the effusion of a serous fluid in the bronchiæ—According to the species, age and constitution of the animals, death may be occasioned by one alone of these three modes of asphyxia, or by two, or even by varied combinations of the three." Page 214.

Such are briefly the novel doctrines of Dr. Le Gallois. As they are the result of a chain of reasoning and experiments reciprocally connected, every part is essential to a perfect explanation of the whole. We have, therefore, found it extremely difficult to give by detached portions a general and explicit representation of the whole work. We do not, however, expect our readers to be satisfied with a partial acquaintance with the labors of this ingenious author, but hope they will be invited by it, candidly to examine his volume for themselves; when we trust their judgment will acquit us of the impeachment of credulity. It is comprised in about three hundred octavo pages, which are not burdened with adventitious matter, but occupied by the investigation and proof of the doctrine in question. Annexed to the memoirs of Le Gallois, is a learned and judicious report, in confirmation of his doctrine, by De Humboldt, Halle and Percy, who were delegated by the first class of the Imperial Institute of France, to investigate this curious and novel doctrine. These gentlemen the most distinguished Philosophers and Physiologists of the age, were equally able to decide upon the accuracy of our author's experiments and the correctness of his deductions.

II.

History of James Mitchell, a Boy born Blind and Deaf, with an Account of the Operation performed for the recovery of his Sight. By JAMES WARDROP, *F. R. S. Edinburgh. 4to. pp.* 52. *London*, 1813.

From the Edinburgh Medical and Surgical Journal.

The unfortunate youth, whose history we are about to lay before our readers, has been placed, by an almost unexampled infliction of Providence, at an immeasurable distance from his fellow-creatures. Deprived of the principal means of intercourse with the external world, he has been doomed to solitude and ignorance, and though evidently possessed of *capacity* for moral and intellectual improvement, he at present exists bereft in a great degree of the possibility of having this capacity cultivated except to a very limited extent.

"When brought to London, and put under my care," Mr. Wardrop observes, "he had passed the fourteenth year of his age. He was accompanied by his father, a respectable clergyman in the north of Scotland, and by his sister; from whom, and from the observations I was enabled to make, the subsequent history has been collected.

"He had the usual appearances of strength and good health, and his countenance was extremely pleasing and indicated a considerable deal of intelligence.

"On examining the state of his eyes, the pupil of each was observed to be obscured by a cataract.

"In the right eye the cataract was of a white color and pearly lustre, and appeared to pervade the whole of the crystalline lens. The pupil, however, readily dilated or contracted, according to the different degrees of light to which it was exposed. The cataract in the left eye was not equally opaque; about one-third of it being dim and clouded, arising, as it appeared, from very thin dusky webs crossing it in various directions, the rest being of an opake white colour. The pupil of this eye did not, however, seem so susceptible of impressions from varieties in the intensity of light, as that of the other eye, nor did he employ this eye, so often as the other, to gratify his fondness for light.

"I could discover no defect in the organization of his Ears.

"Soon after his birth, his parents observed the cataracts in both eyes, and they also discovered, at a very early age, that he was Deaf, as no sounds appeared to excite his attention, and no noise seemed to awake him during sleep.

"About the time of life when he was attempting to walk, he began to be attracted by bright and dazzling colours, and to derive pleasure from striking his teeth with sonorous bodies. He also appeared anxious to smell and feel those substances which had become known to him through the medium of his other senses."

"He used to hold between his eye and luminous objects, such bodies as he had found to increase the quantity of light; and it was one of his chief amusements to concentrate the sun's rays, by means of pieces of glass, transparent pebbles, or similar substances, which he held between his eye and the light, and turned about in various directions. There were other modes by which he was often in the habit of gratifying his desire of light. He would go to any outhouse or room within his reach, shut the windows and doors, and remain there for a considerable time, with his eyes fixed on some small hole or chink which admitted the suns rays, eagerly catching them. He would also, during the winter nights, frequently retire to a corner of a dark room, kindle a light for his amusement. Such indeed seemed to be the degree of pleasure, which he received from feasting his eyes with light, that he would often occupy himself, in this manner for several hours without interruption. In this, as well as in the gratification of other senses, his countenance and gestures displayed a most interesting avidity and curiosity."

"In his childhood, one of the most remarkable circumstances relating to him, was this eager desire to strike any hard substance against his teeth. He was particularly gratified when it was a key, or any instrument which produced a sharp sound; and he struck it always upon his front teeth. When a ring of keys was given to him, he seized them with great avidity, and tried each separately by suspending it loosely between two of his fingers, so as to allow it to vibrate freely; and after tingling them amongst his teeth, in this manner, he generally selected one from the others, the sound of which seemed to please him most. This, indeed, was one of his most favorite amusements, and it was surprising how long it would arrest his attention, and with what eagerness he would, on all occasions, renew it. A gentleman observing this circumstance, brought to him a musical snuff-box (a French trinket containing a small musical instrument, which played airs by means of a spring,) and placed it between his teeth. This seemed not only to excite his wonder, but to afford him exquisite delight; and his father and sister, who were present, remarked, that they had never seen him so much interested on any former occasion. Whilst the instrument continued to play, he kept it closely between his teeth, and even when the notes were ended, he continued to hold the box to his mouth, and to examine it minutely with his fingers, his lips, and the point of his tongue, expressing, by his gestures and by his countenance, extreme curiosity.

"Besides the musical snuff-box, I procured for him a common *musical key*. When it was first applied to his tooth, he exhibited expressions of fear mixed with surprise. However, he soon perceived that it was attended with no harm, so that he not only allowed it to be renewed, but he soon acquired the habit of striking it on his own hand, so as to make it sound, and then touching his teeth with it. One day his father observed him place it upon the external ear. He has also, on some occasions, been observed to take notice of, and to appear uneasy with very loud sounds. Though, therefore, the teeth, besides being organs of mastication, and also serving as organs of touch in examining the food in the mouth, so that the hard and indigestible part may be rejected, in this boy they seemed to be the best channel of communicating sound to the auditory nerve.

"His organs of Touch, of Smell, and of Taste had all acquired a preternatural degree of acuteness, and appeared to have supplied, in an astonishing manner, the deficiencies in the senses of Seeing and Hearing. By those of Touch, and Smell in particular, he was in the habit of examining every thing within his reach. Large objects, such as the furniture of a room, he felt over with his fingers, whilst those which were more minute, and which excited more of his interest, he applied to his teeth, or touched with the point of his tongue. In exercising the sense of Touch, it was interesting to notice the delicate and precise manner by which he applied the extremities of his fingers, and with what ease and flexibility he would insinuate the point of his tongue into all the inequalities of the body under his examination.

"But there were many substances which he not only touched, but smelled during his examination.

"To the sense of Smell, he seemed chiefly indebted for his knowledge of different persons. He appeared to know his relations and intimate friends, by smelling them very slightly, and he at once detected strangers. It was difficult, however, to ascertain at what distance he could distinguish people by this sense; but, from what I was able to observe, he appeared to be able to do so at a considerable distance from the object. This was particularly striking when a person entered the room, as he seemed to be aware of this before he could derive information from any other sense, than that of smell.

"In selecting his food, he was always guided by his sense of smell; for he never took any thing into his mouth, without previously smelling it attentively.

"His Taste was extremely delicate, and he showed a great predilection for some kinds of food, whilst there were others of which he never partook. He had on no occasion tasted butter, cheese, or any of the pulpy fruits; but he was fond of milk, plain dressed animal food, apples, peas, and other simple nutriment. He never took food from any one, but his parents or sister."

"Impressions transmitted to the human soul through the medium of *one* sense might call into being some of the most important operations of intellect. Facts have been given to prove, that this boy possessed both recollection and judgment. We are ignorant of the qualities of bodies which influenced his determinations and his affections. On all occasions, however, it was clear, that he made his experiments on the objects which he examined, with all the accuracy and caution that his circumscribed means of gaining intelligence could admit. The senses he enjoyed being thus disciplined, acquired a preternatural degree of acuteness, and must have furnished him with information respecting the qualities of many bodies, which we either overlook, or are in the habit of obtaining through other channels.

"Perhaps the most striking feature of the Boy's mind, was his avidity and curiosity to become acquainted with the different objects around him. When a person came into the room where he was, the moment he knew of his presence, he fearlessly went up to him, and touched him all over and smelled him with eagerness. He showed the same inquisitiveness, in becoming acquainted with every thing within the sphere of his observation, and was daily in the habit of exploring the objects around his father's abode. He had become familiar with all the most minute parts of the house and furniture, the out-houses, and several of the adjacent fields, and the various farming utensils.

"He showed great partiality to some animals, particularly to horses, and nothing seemed to give him more delight than to be put on one of their backs. When his father went out to ride, he was always the first to watch his return; and it was astonishing how he became warned of this, from remarking a variety of little incidents. His father putting on his boots, and such like occurrences, were all accurately observed by the boy, and led him to conclude how his father was to be employed. In the remote situation where he resided, male visitors were most frequent, and therefore the first thing he generally did, was to examine whether or not the stranger wore boots; if he did he immediately quitted him, went to the lobby, found out, and accurately examined his whip, then proceeded to the stable and handled his horse, with great care, and the utmost attention. It occasionally happened that visitors arrived in a carriage. He never failed to go to the place where the carriage stood, examined the whole of it with much anxiety, and amused himself with the elasticity of the springs.

"The locks of doors attracted much of his notice and he seemed to derive great pleasure from turning the keys.

"He was very docile and obedient to his father and to his sister, who accompanied him to London, and reposed in them every confidence for his safety, and for the means of his subsistence.

"When a stranger approached him, he eagerly began to touch some part of his body, commonly taking hold of the arm, which he held near his nose, and after two or three strong inspirations, through the nostrils, he appeared to form a decided opinion regarding him. If this was favorable, he showed a disposition to become more intimate, examined more minutely his dress, and expressed by his countenance more or less satisfaction: but if it happened to be unfavourable, he suddenly went off to a distance, with expressions of carelessness or of disgust.

"When he was first brought to my house, to have his eyes examined, he both touched and smelled several parts of my body, and the following day, whenever he found me near him, he grasped my arm, then smelled it, and immediately recognized me; which he signified to his father, by touching his eye-lids with the fingers of both hands, and imitating the examination of his eyes, which I had formerly made. I was very much struck with his behaviour during this examination. He held his head, and allowed his eyes to be touched, with an apparent interest and anxiety, as if he had been aware of the object of my occupation. On expressing to his father my surprise, at the apparent consciousness of the Boy of what was to be done, he said that he had frequently, during the voyage from Scotland, signified his expectation and his desire that some operation should he performed on his eyes. About two years before this period, he had been brought up to London by sea, with the hope of getting an attempt made to improve his sight and his hearing. The membrane of the tympanum, of both ears, was punctured by Mr. Astley Cooper, with no benefit; and several medical gentlemen examined his eyes, and endeavored to perform some operations on them. In this, however, they completely failed, from the powerful resistance which he made to all their efforts to secure him and hold the eye quiet. The lively remembrance, which he seemed to have, of these events, and the recurrence of the same circumstances attending his coming here at this time, made him very naturally conceive that his parents had again brought him from home, with the same view as formerly. During the first examination, and on several future ones, when I purposely handled the eye roughly, I was surprised to find him submit to every thing that was done with fortitude, and complete resignation; as if he was persuaded that he had an organ imperfectly developed, and an imperfection to be remedied by the assistance of his fellow-creatures.

" Many little incidents in his life has displayed a good deal of reason and observation. On one occasion a pair of shoes were given to him, which he found too small, and his mother put them aside into a closet. Some time afterwards young Mitchell found means to get the key of the closet, opened the door, and taking out the shoes, put them on a young man, his attendant, whom they fitted exactly.

" On another occasion, finding his sister's shoes very wet, he appeared uneasy until she changed them.

" From his father having had farm servants, he attempted to imitate them in some of their employments, and was particularly fond of assisting them in cleaning the stable.

" At one time, when his brothers were employed making basket-work, he attempted to imitate them ; but he did not seem to have patience to overcome the difficulties he had to surmount.

" In many of his actions, he displayed a retentive memory, and in no one was this more remarkable, than on his second voyage to London. Indeed, as the objects of his attention must have been very limited, it is not to be wondered at, that those few should be well remembered.

" He seemed to select and show a preference to particular *forms*, *smells*, and other *qualities* of bodies. He has often been observed to break substances with his teeth, or by other means, so as to give them a form which seemed to please him. He also preferred to touch those substances which were smooth, and which had a rounded form ; and he has been known to employ many hours in selecting from the channel of a river, which was near his father's house, small stones of a rounded shape, nearly of the same weight, and having smooth surfaces. These too he would arrange in a circular form on the bank of the river, and place himself in the centre of the circle. He also seemed to be much pleased with some Smells, and equally disgusted with others, and this latter he expressed by squeezing his nostrils, and turning his head from whence the smell came. He showed an equal nicety in the selection of his food.

" He sometimes showed a good deal of *drollery* and *cunning*, particularly in his amusements with his constant companion and friend, his sister. He took great pleasure in locking people up in a room or closet, and would sometimes conceal things about his person, or otherwise, which he knew not to be his own property ; and when he was detected doing so, he would laugh heartily.

" That he was endowed with affection and kindness to his own family cannot be doubted. The meeting with his mother; after his return from London (to be afterwards noticed) showed this very strongly. On one occasion, finding his mother unwell, he was observed to weep ; and on another, when his attendant happened to have a sore foot, he went up to a garret room to find a particular stool for his foot to rest upon, which he himself had made use of, on a similar occasion, long before. He seemed fond too of young children, and was often in the habit of taking them up in his arms.

"His disposition and temper were generally placid, and when kind means were employed, he was obedient and docile. But if he was teazed or interrupted in any of his amusements, he became irascible, and sometimes got into violent paroxysms of rage. At no other time did he ever make use of his voice, with which he produced most harsh and loud screams.

"It is not one of the least curious parts of his history, that he seemed to have *a love of finery*. He early showed a great partiality to new clothes, and when the tailor used to come to make clothes at his father's house (a practice common in that part of the country), it seemed to afford him great pleasure to sit down beside him whilst he was at work, and he never left him until his own suit was finished. He expressed much disappointment and anger, when any of his brothers got new clothes, and none were given to him. Immediately before he came to London, each of his brothers got a new hat, his father considering his old one good enough for the sea voyage. Such, however, was his disappointment and rage, that he secretly went to one of the out-houses, and tore the old hat to pieces. Indeed, his fondness for new clothes afforded a means of rewarding him when he merited approbation, and his parents knew no mode more severe of punishing him than by obliging him to wear old ones.

"With respect to the means which were employed to communicate to him information, and which he employed to communicate his desires and feelings to others, these were very ingenious and simple. His sister, under whose management he chiefly was, had contrived signs addressing his organs of Touch, by which she could control him, and regulate his conduct. On the other hand he, by his gestures could express his wishes and desires. His sister employed various modes of holding his arm, and patting him on the head and shoulders, to express consent and different degrees of approbation. She signified *time* by shutting his eye-lids and putting down his head; which done once, meant one night. He expressed his wish to go to bed by reclining his head, distinguished me by touching his eyes, and many workmen by imitating their different employments. When he wished for food he pointed to his mouth, or to the place where provisions were usually kept."

The foregoing extracts will enable our readers to form a sufficiently accurate judgment both of the acquirements and general character of Mitchell. It is evidently more completely evolved, and evinces greater variety and interest than could have been reasonably expected. When we consider the few qualities that he was able to perceive, and the unsatisfactory information they afforded, it is impossible not to be struck with that fearlesss and intrepid spirit, which could induce a being like him to pursue the objects of his curiosity with the eagerness and perseverance which he invariably displayed. Had he derived *no gratification* at all from light, and had his ears been *totally* insensible to sounds in whatever way transmitted, it is by no means likely that he would have been stimulated by his other senses, to make the experiments and exertions for which he is so remarkable. In such trials, however, the aids derived from the attentions of his family, must not be overlooked. His sister, in particular, appears to have conducted his education to a certain extent, with much care and ingenuity. The principle she has adopted, is the only one that is suitable, while his organs remain in their present mutilated condition. We regret, however, that the tangible language which she employed, had not been pushed to its greatest possible extent. The quickness, nay even the genius of the boy was such, that it might evidently have been rendered a channel of information much more precise and extensive than it has hitherto been. This remark is made without the slightest intention of wounding the feelings of an ingenious and amiable young lady. She has done more than most people in her situation could have accomplished; and we only regret that the utmost advantage had not been derived from her discovery.*

It may never be in the power of man to ascertain with accuracy the nature of the elementary and original perceptions conveyed exclusively to the mind by each individual sense; because the opportunities for observation are both few and unsatisfactory. We do not indeed believe that the philosophy of character requires very great precision in this respect. The succession of impressions may be sufficiently marked, as well as the combinations which result from such impressions, without positively allotting to each sense its peculiar and exclusive share in the formation of intellectual phenomena. Here, we believe, experience fully establishes what philosophy teaches. The removal of a cataract does not at once invest the organ of vision with all its powers and properties, nor convey to the "mind's eye" a flood of light. Long and frequent discipline is required to train our senses to their perfect duties. This discipline is obtained under circumstances where attention cannot be well excited, and therefore is unheeded. The most experienced eye, when suddenly introduced to a great assemblage of universal objects, is, for a time, incapable of analyzing the different parts of the spectacle, and reducing them to order. Every thing appears, at first, confused, and it is not till after patient and repeated examination that the intricacy is removed. What all men, more or less, experience in unravelling novel and complex impressions, must be felt by persons who have any of their senses suddenly restored, when applying their newly acquired power of perception to the examination of the most simple properties. The whole of infancy is passed in such examinations, and they differ not in their effects from the inquiries which we pursue in our maturer years. Without attempting to speculate upon the accidents and events which model individual characters, and give them their various attainments, it is a truth which admits not of contradiction, that the progress of intellect, and the due use and discipline of our organs of perception, are inseparably connected together. The impressions so received, produce very different effects in different individuals; but from their agency results the developement of our faculties, and ultimately the whole of the moral or intellectual excellence, of which our nature is susceptible.

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* In attributing this discovery to Miss Mitchell, we are not unacquainted with the observations of Sicard. As far as she is concerned the plan was original.

These remarks are amply confirmed by the history of Mitchell. They are also well illustrated by another case which we have recently observed. A very few particulars respecting it, therefore, may not be misplaced here. This boy is about the age of thirteen. He was born blind. But the loss of his sight has not been his only misfortune. At an early age he was deprived of both his parents, and the greater part of his life has been spent in a parish workhouse. There, his existence appears to have been purely animal. His few wants were supplied, but no attempts seem to have been made to excite his curiosity, or to communicate information. He had scarcely any language, and the words he knew referred merely to a few particular facts which he was compelled to observe, and their application extended not beyond the bounds of his own very limited experience.

An operation, after the plan recommended by the late Mr. Saunders, was performed. He was thereby enabled to distinguish colours; but it was not until after repeated and very laborious experiments, that the colour and its name became completely associated together. Similar difficulty was encountered in teaching him to mark, by appropriate language, difference of shape, and even of magnitude. The import of the words roundness and squareness, for example, could not be conveyed to him, but by impressing angular and circular bodies strongly and frequently upon his sense of touch. Of time or distance he had no accurate notions. It is also worthy of remark, that the muscles which move the eye-lids, and the eye itself, had been so little employed, that they had become almost involuntary. When desired to open the eye, he invariably at first had recourse to his finger; and instead of directing the eye itself to any object which he was surveying, he either moved his head, or the object, till it was brought to a proper point for observation.

The peculiarities dependent upon blindness, are certainly not the most interesting in this case. From an unhappy combination of circumstances, he has existed in a state of ignorance which is almost incredible; and, at an age when a considerable degree of information is generally obtained, he, in point of *physical* and *moral* acquirements, is not much superior to an infant. It has been peculiarly interesting to observe the developement of his faculties, in consequence of a more precise and regular use of his organs of perception, and his more extended acquaintance with the external world. Impressions which he had formerly received, but which had lain dormant and unapplied in his memory, begin to be called, as it were, into a new existence, to be compared with his more recent acquirements, and to afford him the means of making new arrangements and combinations. In consequence of this process, he has repeatedly and unexpectedly disclosed some facts connected with his previous habits and condition, which never could be obtained before, by the most assiduous and best contrived interrogatories. It would be wrong, in this place, to give a more detailed account of this lad. His progress has been well noted, and it may afterwards afford the subject of a separate communication.

Besides the memoir published by Mr. Wardrop, another relative to Mitchell has been drawn up by Mr. Stewart, and printed in the Transactions of the Royal Society of Edinburgh. Mr. Wardrop, Dr. Gordon, and other gentlemen, afforded him the materials for his interesting account.

"The education of those who are deprived by nature of one or more of the most important channels of information, is not less interesting to the philosopher, than it is to those who are the objects of his care. Mr. Stewart has, with laudable and humane feeling, dwelt at some length upon this subject, and has passed a high eulogium upon the merits of the plan said to be pursued by the Abbé Sicard. We cannot help feeling some degree of surprise, at the unqualified manner in which he has expressed his admiration of the deep philosophical principles which he thinks have guided the researches, and dictated the practical lessons of that author. From a natural desire to augment the value of his instructions, Sicard has probably been led, in his introduction, and other parts of his work, to give a picture of the minds of individuals who are born deaf, which unquestionably is not justified by common observation. It is contradicted by what we daily see of persons in that situation, who have not had the advantages of his system; and we are enabled to state, from an accurate knowledge of the success attending less complicated plans of tuition, that many of his minute details and metaphysical distinctions, are both unnecessary and inapplicable. Mr. Stewart has implicitly adopted his account of Massieu. That account, there is reason to believe, is overcharged. Accomplished as this person undoubtedly is, it is proved, that he always showed an observing and penetrating mind, and an almost invincible desire to obtain instruction, long before he fell under Sicard's care. The following quotation shows that he was not so savage as we have been taught to believe:

"Massieu voyoit les autres enfans aller à l'ecole. Il avoit grande envie d'apprendre à lire et à ecrire. Il pria son père de l'envoyer chez le maitre, son père le refusa, en lui disant, par signes, que cela etoit inutile, à cause de sa surdité. Massieu lui faisoit signe de déboucher ses oreilles comme on débouche un bouteille; voyant qu'il ne pouvoit rien obtenir de son père il dérobe un livre, et va de lui-meme à l'école. Le maitre l'en chasse impitoyablement. Massieu ressent une affliction profonde; il pleure amerement; il ouvre son livre; il le devore des yeux; il en parcourt les pages en remuant les levres, comme s'il eut prononcé les mots; il veut les ecrire, et il ne trace que des caractères insignifians. Il etoit alors agé de douze ans," &c. &c.

Vid. Considerations sur les Sourds-muet, de naissance, par U. R. T. Le Bouvyer Desmortiers, p. 255.

We hasten now, after these imperfect observations, to make known some of the facts connected with Mr. Wardrop's operation on Mitchell, and it consequences.

"In the hope of restoring this Boy's sight," he observes, "my attention was solely directed to the removal of the cataract of the right eye. Having thought it preferable *to extract* the lens of that eye, and conceiving this might be accomplished by having him properly secured, I placed him on a table in a room lighted from the roof: and having secured him with skilful assistants, I attempted to introduce the cornea-knife; but the resistance which he made was such as to render it impracticable to use that instrument. He seemed to know that something was to be done to his eye, and he at first readily yielded, and allowed himself to be placed and held on the table. The uneasiness, however, with the pressure necessary to keep the eye ball steady and the eye-lids open, seemed to overcome his resolution, and his exertions became so violent that it was quite impossible to secure even his head.

"A second attempt was made the day following, having previously taken more precautions in order to secure him; but so violent were his exertions and cries, and so irascible did he become that all present were glad to relinquish their posts, and I was impressed with the conviction, that nothing but a powerful piece of machinery, calculated to grasp every joint of his body, would be at all sufficient to enable any operation to be performed. Some days having elapsed without the hope of being able to get the operation performed, I at last thought of a machine which completely answered the wished-for purpose, and which I may describe, as on a future occasion, under similar circumstances, it may be found useful. It consisted of a kind of box, long enough to contain all his body except the head. The sides were fixed on hinges, so that they might be folded in upon the body; it had no top part, and the bottom was long enough to reach sufficiently far beyond the sides at one extremity, so that a perpendicular plane of wood was fixed on it, in which there was a niche of such a size as accurately to contain the head. The machine being placed erect, and lined with a blanket, to prevent any risk of his being injured, he was easily secured in it by folding the sides on his body, and fixing them with circular ropes; and in this manner, notwithstanding a most powerful resistance and many harassing screams, he was placed on a table and kept quite steady. I had now given up all hopes of extracting the cataract, and determined to try *couching*, an operation which, though not generally so successful, was preferable in this case, as there was not so much danger of doing any essential injury to the eye, even if it did not succeed. Much difficulty was found in holding open the eye-lids, and keeping the globe of the eye steady; but this was ultimately accomplished by Mr. Ware, who was kind enough on this occasion to lend me his able assistance. As soon as the couching-needle touched the eye he remained quite steady, and his dreadful screaming ceased. I made use of the needle recommended by Mr. Cheselden, and with its sharp edge cut through the anterior portion of the crystalline capsule, and with its point, dragged the lens from the sphere of the pupil. On depressing the point of the needle the lens remained out of view, except a small portion of its inferior edge, so that I then withdrew the instrument. A small quantity of blood was effused in the anterior chamber. The operation being finished, he was liberated from the machine in which he was fixed. He then expressed great satisfaction, gazed around him, and appeared as if he could distinguish objects. This, however, could not be ascertained in a manner quite satisfactory, as it would have been prejudicial to his recovery to make any experiments; but it might be perceived from the change in the expression of his countenance. The eye, accordingly, being bound up, he was carried home, and put to bed in a dark room; after which he was bled in the arm."

On the *fifth day* he got out of bed, and was brought in to a room having an equal and moderate light. Before either touching or *seeming* to smell me, he recognized me, which he expressed by the fear of something to be done to his eyes. He went about the room readily, and the appearance of his countenance was much altered, having acquired that look which indicated the enjoyment of vision. Indeed, before the operation he always walked with much freedom, and I had observed, that even on a very rugged and unequal road he did not stumble, or suffer in the least from jolting.

"He appeared well acquainted with the furniture of the room, having lived in it several days previous to the operation; and though, from placing things before him, he evidently distinguished and attempted to touch them, judging of their distances with tolerable accuracy, yet he seemed to trust little to the information given by the eye, and always turned away his head, while he carefully examined, by his sense of Touch, the whole surfaces of the bodies presented to him.

"On the *sixth day* he appeared stronger, amused himself a good deal looking out at the window, and seemed to observe the carts and carriages which were passing in the street. On putting a shilling on the middle of a table he instantly touched it.

"On the *seventh day* t[illegible]flammation was nearly gone, and he observed a piece of white paper, of the size of half a six-pence, put upon the table. I took him into the street, and he appeared much interested in the busy scene around him, though at times he seemed frightened. A post, supporting a scaffold, at the distance of two or three yards, chiefly attracted his notice; and he timorously approached it, groping, and stretching out his hand cautiously, until he touched it.

"He was at this time removed from his lodging to an uncle's house, who being a tailor, had a room full of various coloured cloths, which afforded young Mitchell an unceasing source of pleasure and amusement.

"He expressed a great desire for a suit of new clothes, and it was signified to him, that his wishes would be complied with; and being allowed to make a choice, he selected from among the variety of colours a light yellow for his breeches, and a green colour for his coat and waistcoat. Accordingly these were made, and, as I solicited his father not to allow them to be put on until I was present, it was signified to him that he should have permission to wear them in two days. The mode by which he received this communication was by closing his eye-lids, and bending down his head twice, thereby expressing that he must first have two sleeps. One day after the clothes were finished, I called, and requested that he should be dressed in them. This was intimated to him by his uncle, touching his coat, and giving him a ring of keys, one of which opened the door of the room where the clothes were kept. He eagerly grasped the keys, and in an instant pitched on the one he wanted, opened the door, and brought a bundle, containing his new suit, into the room where his father, uncle, sister, another gentleman and myself were sitting. With a joyful smile he loosened the bundle, and took out of the coat-pocket a pair of new white stockings, a pair of yellow gloves, and a pair of new shoes. The succeeding scene was, perhaps, one of the most extraordinary displays of sensual gratification which can well be conceived. He began by first trying his new shoes, after throwing away the old ones with great scorn, and then with a smiling countenance went to his father and to his sister, holding up to each of them and to me his feet in succession, that we might admire his treasure.

"He next put on the yellow gloves, and in like manner shewing them to his father and sister, they expressed their admiration by patting him on the head and shoulders. He afterwards sat down opposite to a window, stretched out on each knee an expanded hand, and seemed to contemplate the beauty of his gloves with a degree of gratification scarcely to be imagined. At one time I attempted to deceive him, by putting a yellow glove, very little soiled, in place of one of his new ones. But this he instantly detected *as a trick*, and smiled, throwing away the old glove and demanding his new one. This occupation lasted a considerable time, after which he and his sister retired to another room, where he was dressed completely in his new suit. The expression of his countenance, on returning into the room in his gaudy uniform, excited universal laughter, and every means were taken to flatter his vanity and increase his delight!

"Though the garments continued to occasion much delight, yet there were additional sources of enjoyment now laid open to him from his newly acquired powers of vision. One day I gave him a pair of green glasses to wear, in order to lessen the influence of the bright sunshine on his eye, which remained still irritable. He looked through them at a number of objects in succession, and so great was his surprise, and so excessive was his pleasure, that he burst into a loud fit of laughter. He continued to keep possession of the glasses, wearing which became one of his favorite amusements.

He, in general, seemed much pleased with objects which were of a *white*, and still more particularly those of a *red* colour. I observed him one day take from his pocket a piece of red sealing-wax, which he appeared to have preserved for the beauty of its colour. A white waistcoat or white stockings pleased him exceedingly, and he always gave a marked preference to yellow gloves."

The following account was transmitted by his father from Scotland, in 1810, to Mr. Wardrop.

"James seemed much amused with the shipping in the river, and until we passed Yarmouth Roads. During the rest of the passage, we were so far out at sea that there was little to attract his notice, except the objects around him on deck. He appeared to feel no anxiety till we reached this coast, and observed land and a boat coming along-side of the vessel to carry some of the passengers on shore. He seemed then to express both anxiety and joy, and we had no sooner got into the river which led to the landing-place, than he observed, from the side of the boat, the sandy bottom, and was desirous to get out. When we got to land he appeared happy, and felt impatient to proceed home.

wards. On our arrival that evening, after a journey of seventeen or eighteen miles, he expressed great pleasure on meeting with his mother and the rest of the family. He made signs that his eye had been *operated* upon, that he also *saw* with it, and at the same time signified that he was fixed in a particular posture, alluding to the machine in which he had been secured during the operation. He has now learnt to feed himself, and to put on his own clothes. No particular object has yet attracted his attention in the way of amusement."

"A considerable time elapsed before any further accounts of young Mitchell reached me. I then learnt that his sight, instead of improving, as I had been led to hope, was impaired, from the opake crystalline lens not having been absorbed, and again covering the pupil; an accident by no means unusual after *couching* the cataract.

"Since that time, however, I have been informed that his sight has begun to improve, the fragments of the lens, and opake portion of its capsule are undergoing a gradual absorption, and enabling him to distinguish objects which are not very minute, and of a bright colour. From this sense, therefore, he is not enabled to acquire much additional information, and it still seems only to afford him the enjoyment of feasting his eyes with light, and with various colours.

"As he has advanced in life, his temper has become more irascible, he is less tractable; and he has all the signs of puberty. No circumstance in his history seems to show that he has any notion of difference in sex.

"The picture which I have attempted to delineate of this Boy's lamentable situation, whilst it must excite our sympathy, cannot fail at the same time to give rise to much philosophical speculation on one of the most interesting subjects which can engage the human understanding. It is a most wonderful and instructive experiment, instituted by *Nature* herself to illustrate the progress of human intellect, to mark the influence of the different organs of perception in the developement of its various faculties; thereby realizing what many philosophers have contemplated in imagination, but never before witnessed.

"The Boy is now in Scotland, and Professor Dugald Stewart, to whom I have communicated every circumstance of his case, is taking a lively interest in procuring some suitable provision, which might enable the Boy to be placed where an attempt could be made to educate him; and perhaps also to improve his sight by another operation. If this plan be executed under the immediate care and management of Mr. Stewart, every thing will be done which can promote the happiness of this interesting youth, whilst science will reap the benefit of the observations of one of the most ingenious and most profound philosophers of the present day."

We most sincerely hope that, Mr. Wardrop's benevolent wishes may be fully accomplished. The success of the first operation fully warrants the trial of another, and the age of the lad requires that it should be made without delay.

The copious extracts which we have made from Mr. Wardrop's memoir, will enable our readers easily to appreciate its merits. It is composed in that simple unostentatious style which best suits subjects of this description; and, although he has purposely avoided all speculations, he has given a detail of facts which may be implicitly relied on, as affording a sure foundation for illustrating an interesting portion of the philosophy of our species.

III.

Elements of Surgery: for the use of Students; with plates. *By* JOHN SYNG DORSEY, *M. D.* &c. &c. *in two volumes.* *Philadelphia*, 1813.

Critics have generally considered systematic works as fair game. They are easily *cut up*, for every page must present something either trite or opposite to their own controversial opinions. They also favor much the laziness of students and mere practitioners, and thus are further exposed to sarcasm. Now we differ in toto from such of our brethren. We believe that the laziness which takes advantage of such helps would take advantage of none other; that they who are not stimulated by their own minds to enter into deeper researches, will not be *forced* into them. Most of the practitioners of all countries are men of very superficial reading; and so have they probably been in all ages: we are therefore warranted in attributing this imperfection to something inherent in human nature. Such men, if they had no systems to read, would read little or nothing.

For students a system is peculiarly necessary. Those who are educated in town have a thousand things to attend to besides study, and those who live in the country have a deal of riding to accomplish; they all, therefore, must economise their thoughts, and get a system by rote instead of travelling over the thorny paths of study to digest one for themselves.

The works we allude to are of two kinds; systems properly so called, and those denominated elements or first lines: The former give a compendious view of the whole science, omitting unnecessary details, and are chiefly of use to general readers; the latter contain only the rudiments, and are proper, nay necessary, to initiate beginners into the studies they are about to prosecute. A good system is one of the greatest desiderata in surgery. By a good system, we mean one which shall give a concise sketch of former opinions, with a full view of the doctrine and practice of the present day. The particular sentiments of the author should connect all these into one system. Anatomy particularly, and other branches of science so far as they throw light on the several subjects, should be comprehended. And although most of the materials of such a work will of course be borrowed, yet the language and style should be the author's own, full and perspicuous for the purpose of instruction, and polished lest it disgust the more critical reader. We have adopted a very high standard, and our readers will not be surprised when we assert that we have never seen a good system of surgery. That of Mr. B. Bell, was once the best, unpolished as it was in language, and although nearly out of date, will afford the best ground work for a new one.

"Elements" is a more unassuming title, its only object being to furnish students with the first principles of their subject. These rudiments are, in surgery, parts of the science; some of them properly speaking fundamental, but many selected according to the judgment of the compiler. For instance, a knowledge of inflammation and its consequences is strictly fundamental, for the adhesion of wounds, the union of fractures, and (according to some) the formation, and growth of tumors, depend on inflammatory action; such a subject is of course part of an "elements." When, however, fractures and tumors are treated of, there is no rule to determine how much of their surgical history, or how complete a detail of theory or practice, should be comprehended. It is impossible, therefore, to form a standard of requisites for such a work.

We cannot say that the distinction we have made above, is to be found in all compendious works. Every imperfect system may in one sense be called elements, and thus be shielded from criticism. And it is not probable that the writer of an "elements" will so restrain his pen as to omit opportunities of detail on favorite topics. Yet the division is a natural one, and we see no reason why such works should not be as distinct as are memoirs and biography, &c.

As no general requisites are made in elementary books, little general criticism can arise. We shall therefore in reviewing Dr. Dorsey's volumes, confine ourselves chiefly to the individual subjects. There is, however, one general hint, which we are unwilling to withhold.

Dr. D. in stating the opinions of other authors, has preferred giving them in their own words, considering it as the "most useful and honest method of communicating information." We beg leave to differ. If the passages quoted be not from some compendium, they will seldom be in the concise language proper for such a work. Besides, it is to be required that an author give every advantage to his subject which language can afford. If this be not done, it is a saving of his talents, which is inadmissible in any author, not "indifferent to that species of reputation which might accrue from such a publication."

We stop at the first chapter, to express our acquiescence in the Hunterian opinion, that a thin layer of blood is the medium of union by the first intention. Some of our readers may not be aware that there is a more recent doctrine; that lymph is considered as the medium, and that therefore the surfaces must be cleansed from every particle of blood. If a bloody stain is found on the dressings after such an union, it is proof sufficient that there was blood between the lips of the wound; and it is begging the question to say, that this blood has been absorbed and lymph then poured out; for lymph also is absorbed and the same argument would apply to every successive deposition until the union be complete.

We had somehow heard that the chapters on inflammation were very defective; and we find them just as defective as we could wish, and very well calculated for a work merely elementary. They are wanting in theory—in practical remarks they are sufficiently full. In one or two opinions we differ from the author.

We doubt if erysipelas be merely an inflammation of the cutis vera, or blisters should invariably produce erysipelas, instead of effecting its cure; and from this analogy, we venture to hint that some greater distinction of inflammation is necessary, than "healthy and diseased." Inflammation is one process or train of processes, erysipelas is another and very different; or to use more technical language, inflammation is one species of morbid action, erysipelas another species. This matter, however, is not to be settled by mere argument.

We quote the following only to give wider circulation to the greatest improvement which America has contributed to practical surgery.

"I shall conclude this account of the local treatment of mortification consequent to inflammation, by recommending in every instance the application of a blister, large enough to cover all the sound parts in contact with the diseased. This remedy was introduced into practice by Dr. Physick, who was led to apply it from the success of blisters in cases of erysipelas. He first employed it in January 1803, and from that time until the present, has had the greatest reason to be pleased with its effects, a great number of cases have occurred in various parts of the United States, in which an immediate cessation of the progress of the gangrene has been the result of its application." "After the first dressing of the blister, it will generally be found that the mortification has ceased to progress, and in a very short time the separation of the sloughs commences." p. 21.

Blisters are also recommended in erysipelas, in carbuncle, in spontaneous mortification of the toes, in mortification from exposure to cold, in inflammation of the orifice after venesection, and in several other cases.

At page 40, Dr. Dorsey contends that an artery partially divided may heal and remain pervious. This is in direct opposition to received opinion, but from the proofs which may be adduced, we can no longer deny the fact. Dr. D. has quoted three cases of such healing of the artery, one from Petit, one from Scarpa, and one from Dr. Physick's practice: we can refer him to a fourth, that related by Mr. Lambert of Newcastle upon Tyne, in the Medical Obs. and Inq. vol. 2. p. 360. All these were wounds of the brachial artery. In the two latter cases no dissection was made, they are therefore imperfect proofs of the fact. In Petit's case the opening of the artery was circular, very small, and covered with a little clot or couvercle. Scarpa dissected his artery, and found it cicatrised and pervious, there having been a mere slit. The other two cases derive from these all the probability which collateral evidence can afford. Our author also states that he has seen several wounds of arteries, the edges of which did not take on the circular form ordinarily attributed to them, but lay "nearly or closely in contact." We presume Mr. J. Bell alludes to a similar occurrence when he says "that an artery wounded with a small and slit-like wound, though fairly wounded will not bleed." (Bell on Wounds, part I. p. 147.) May we not, in this fact, perceive the circumstances which favor an union of the artery without obliteration? When the aperture becomes circular, the area is probably too great to be united, but by the highest grade of inflammation at which union by the first intention can take place, such a grade as may induce adhesion of the whole circumference of the artery: occasionally Mr. Petit's couvercle may be formed. But if the edges of the wound lie in contact, we see no reason why they may not unite as the edges of another wound. Even if aneurism be subsequently produced, (as Scarpa maintains will ordinarily occur) it is but the dilatation of the newly formed medium.

In Scarpa's case, the "cicatrix, if it may be called so, differed from the cicatrix of the simple wounds of other soft parts in this, that it was cemented, to use the expression, by an earthy substance; and that in this respect it had a greater analogy with the callus of bones after a fracture than with the re-union of the wounds of soft parts." The patient was 76 years of age.

In the chapter on wounds of the throat, the following method is proposed if the carotid artery be divided, and the surgeon arrive at the instant, before the patient bleed to death.

"In such a case I can see no impropriety in passing a sharp armed needle round the carotid without attending to nerves or any thing else. This ligature being given to an assistant, a second should be instantly passed in the same manner round the upper orifice. The hemorrhagy would now be restrained until the wounded vessel could be drawn out separately with a tenaculum or forceps, and both its cut extremities tied; after which the first ligatures which had been used as tourniquets should be removed." p. 67.

We were startled not a little on reading this paragraph, for we had never learnt that a ligature on the internal jugular could be applied with impunity. The patient may, indeed, die from arterial hemorrhage, but that will probably be quite as comfortable both to him and his surgeon, as death from venous rupture, or at least congestion, in the brain. Perhaps, however, Dr. D. is aware of this practice being warranted by experiment, or else how could he say that he saw in it "no impropriety?" We should prefer compressing the divided end of the artery with the finger until the carotid could be separated and tied, or were secured at some point below the wound. Or, if this were impossible, we should rather keep up pressure till the cut end of the artery was obliterated. We have made this remark in utter ignorance that the internal jugular vein has ever been tied.

Dr. Dorsey, at p. 96, asserts that "the cartilages of a joint, never either inflame, suppurate, or ulcerate." This assertion is rather dogmatical—an error into which our author has sometimes plunged very deeply. We shall meet it by authority rather than argument.

Mr. S. Cooper says, (p. 17) "parts, partaking of a cartilaginous structure, being very incapable of bearing the irritation of disease, often ulcerate, or in other words, are absorbed, &c." Mr. Brodie, (see Medico. Chirurg. Trans. vol. 4. 235.) speaking of articular cartilages, remarks, "inflammation is not in them a frequent occurrence; when it does take place, it terminates in ulceration, &c." And on the next page, "there are cases, and those not of rare occurrence, in which ulceration of the articular cartilages exists as a primary disease."

At page 116, we find another improvement by Dr. Physick, in the treatment of artificial joints. Instead of sawing off the ends of the un-united bone, he passes a seton through the interstice between them. In one case it was completely successful; in two others, in which "it was found impossible to place the fractured extremities *nearly* together," it failed.

Those who have studied only English books, will find great novelty in the treatment of fractures. Dr. Dorsey is a decided advocate for the plan adopted by Dessault, in these injuries, and his own experience has led him to prefer this to the entire exclusion of Mr. Pott's method; indeed he must have viewed English practice with a "jaundiced eye" or he would scarcely assert that one might see in the hospitals of "London, a fractured thigh rudely bound in bundles of straw." What we there saw of the treatment of broken bones was very different; bolsters of carded wool, were interposed between the splint and limb.

The old practice in these accidents was very imperfect. After reduction, a roller was passed tightly round the part, and short splints bound over it. If the patient could fix himself in an easy posture, so much the better for him, and so much the more easily did the surgeon obtain reputation. Mr. Pott systematized this practice. He ordered long splints, which relieved the bruised part from the pressure formerly made on them. He studied the easiest posture for the limb, that in which the muscles chiefly concerned, were most relaxed. And under these directions, have the English surgeons acted since his time, to the great advantage of their patients, and to the almost complete prevention of crooked limbs. "In France," says Dessault, "experience has been by no means favorable, to the position recommended by Pott." As was not unnatural, a position the very reverse was adopted. The patient was laid on his back and by means of complicated machinery, the limb was kept on the stretch. And the success of this plan is established; by "the experience of the surgeons in the Pennsylvania hospital, and French hospitals."

One inexperienced in medical paradoxes would suppose that such opposite methods could never be both successful. They are, however, both founded on correct principles. When the limb is left in an easy posture, a less force will keep the ends of the fractured bone in apposition, and if the patient remain quiet no deformity will ensue. Such, however, is the accommodating nature of the muscular fibre, that it will bear a *steady* extension almost as well as partial relaxation; and under such extension the surgeon may adjust its position more nicely. The object of both plans is, so to oppose the fractured surfaces that they may be secured in the natural direction when callus is poured out upon them; and if this end be attained, the means of attaining it may be such as shall most conduce to the ease of the patient.

Arguing from these principles we should offer the following rule of practice. When the fracture is at the middle of a bone and the patient of years sufficiently mature to rest quietly in one posture, Mr. Pott's method is so far preferable as it is least complex, and least burdensome to the patient, particularly in hot weather. If such a fracture occur in a child, or in a person of very irritable habit, or if the fracture be near either extremity of the bone, Dessault's plan, or that of Dr. Physick, will be necessary. But we consider it as one objection to the latter, that it raises the arm so unnaturally. (see plate.)

There is one other point of comparison which should not be forgot. Dessault's apparatus ought to be adjusted by none but a skilful hand. It is wholly a process of art, and the smallest error in its application will be perceptible in the result. Mr. Pott's method leaves a little to nature, or rather it removes the only obstacle which nature opposes, muscular action; it is less dependent on the perfect skill of the surgeon. We fear, indeed, that this objection to the former plan will prevent its general adoption even in the cases to which it is most applicable. Surgeons in large towns, to whom experience has lent a full share of skill, may use it, but its application must be very awkwardly attempted by the inexperienced.

The apparatus above-mentioned, is used chiefly in fractures of the thigh-bone. For oblique fractures of the leg, other splints operating on the same principle were invented by the late Dr. Hutchinson. We judge them to be applicable under the same circumstances as those of Dessault for the thigh, but we prefer Mr. Pott's method in the majority of cases.

Dr. Post, of this city is, we believe, in the habit of deferring the application of splints until the inflammation, consequent to the accident, is moderated. The fracture being reduced, he lays the limb in a flexed position on a pillow, in which it is secured by several tapes. On the third or fourth day it is further adjusted and splints applied. This practice is, doubtless, the means of saving the patient a great deal of pain.

The chapters on dislocation have suggested to us no other observation than that they contain very judicious directions for reduction,—most of them from Boyer, but some of them improved by Dr. Physick and our author. It is asserted at p. 198, that bleeding "ad deliquium animi," for aiding reduction, was first *practised* by Dr. P.: the date of this first trial should have been given. At the same page we find a case of dislocation of the shoulder-joint of five or six months standing, which was reduced by Dr. M'Kenzie of Baltimore. Blood-letting was employed to facilitate the operation, and nearly "*five pounds of blood* were drawn before fainting could be induced."

Our author has paid particular attention to this branch of surgery, as is evident from his remarks on the proper counter-extension in dislocations of the shoulder-joint. He adapts his apparatus so as to secure the acromion as firmly as possible, and that being fixed no other means of counter-extension will be requisite.

"The great object to be kept in view, is to act as effectually as possible on the shoulder-joint, and this can be best done by making the counter-extension as nearly as possible to the glenoid cavity, and this can certainly be accomplished by making counter-extension *exclusively* upon the acromion process." p. 220.

Concussion of the brain has been a very perplexing subject for surgeons, and they seem to have arrived at no very distinct conclusion as to its proximate cause. Dr. Dorsey is of opinion that it is a real *contusion* of the brain, attended with rupture of numerous small blood-vessels, and effusion of blood. This may happen in many cases, but we are not prepared to yield to the *dogma* "that in all cases of violent concussion this bruised state or ecchymosis does exist." One such dissection at least we have seen, in which there was no ecchymosis visible, but a laceration of the substance of the cerebrum. We know also that it is the opinion of Mr. A. Cooper (from several dissections) that laceration is the cause of high inflammation, and death in violent cases. Indeed we are not to expect an uniform condition of the brain, more than of any other part, after a blow. Contusion in every degree of violence, ecchymosis, and laceration follow such accidents in the integuments, and they ought certainly to be looked for after violence done to the brain.

We were much pleased with the moderation of our author in directing the application of the trephine. He has none of that enthusiastic affection for this instrument, which a few of the present day have caught from Mr. Pott. The argument that a fissure of the cranium will excite inflammation and suppuration of the meninges, is certainly more applicable to the sawing of the bone, and tearing of it from the dura-mater. This consequence of trephining is, indeed, its chief objection, and should deter us from operating, except when symptoms very decidedly indicate it. Liberal depletions, and extensive blistering have in many cases done all that could have been expected from the operation;—or rather, there are circumstances (at present unknown to us) under which the brain will sustain a pressure of which we could, from reasoning, have no conception. Such was, doubtless, the following case :

"I once saw a woman who had been assaulted by a lunatic, and struck forcibly with an iron bar : I found her skull fractured near the junction of the parietal bones, a depression existed which in one part was full half an inch below the natural level, and yet none of the usual symptoms of compressed brain occurred, &c. p. 270.

In Dr. Post's museum, there is a skull fractured and depressed on the side; the depression is four or five inches long, three broad, and nearly three-quarters of an inch lower than the level of the surrounding bone. Some callus is seen at the fractured edges. The man recovered from the accident, and died some months after of dysentery.

We find no notice of the fracture of the basis of the cranium occasioned by a fall on the head. In such a case, the whole weight of the body is concentrated in the vertebral column, which forces in the condyles of the os occipitis, and the fracture is more or less extensive according to the violence of the blow. This is to be suspected when there are symptoms of compression, without any injury of the upper part of the head ; and if the fracture cross the petrous portion of the temporal bone, there will be bleeding from the ear. For this accident the only means in our power are depletions and blistering.

In our last number, (p. 34.) our readers will find an account of an operation for the relief of inversion of the upper eye-lid, the invention of Mr. Saunders. It has, in several cases, happened that the same discovery or invention has been made on both sides of the Atlantic at nearly the same time, and without any correspondence of the inventors. Such was the case in the present instance. Dr. Dorsey performed this operation 1810, and Mr. Saunders' book was not published until 1811. Our author states his claim in a style altogether manly and decorous : such of our readers as are conversant with books, will often find such claims in very different language.

Our readers are probably aware that in the controversy respecting the best operation for cataract, surgeons have generally preferred depression, and oculists extraction. Dr. Dorsey is an exception to this rule, he prefers extraction. This is, doubtless, one of those medical disputes which have occasioned wider difference than the subject would warrant; and if practical men would lay aside their predeterminations, they might select the several operations as each case indicated. We cannot agree with our author, that extraction "is, in fact, an operation requiring very little dexterity or science." The mere practice of it may not require science; but, that it cannot be performed until great dexterity is *acquired*, we may learn from Wenzel's confession, that he had spoiled "a hat-full of eyes" before he learned how to extract. We recollect the following advice of an eminent lecturer in London; not a professed oculist indeed, but acquainted with all the secrets of the profession. "If," says he, "you calculate upon being settled as an oculist, prefer extraction, for oculists who have become skilful, find in it the most certain success: but if operations on the eye be only a branch of your practice, depression will be the safest."

We quote the following direction, in cases of foreign bodies lodged in the œsophagus, on account of its practical importance.

"In two instances I have known the spasm which had arrested a foreign substance, speedily relaxed by a solution of emetic tartar. In each of these cases, a large peach-stone had slipped into the œsophagus, and the patients were of course unable to swallow, and could not breathe without great difficulty. They were directed to hold in their mouths a solution of emetic tartar, and attempt to swallow it. Nausea came on, and the spasm relaxing, the peach-stones were readily discharged." p. 366.

There is a chapter on accidents and diseases of the ear, which, though rather concise, comprehends most of the affections of this organ. In this department surgery has done but little;—whether more may be expected we shall not venture to decide: we hope, however, that the proposal of Mr. A. Cooper for remedying a particular sort of deafness is an earnest of some greater discovery. Mr. C. found that the stoppage of the Eustachian tube sometimes gave rise to this imperfection. And trusting to the philosophical hypothesis, that one use of this tube was to afford a communication between the external air and that within the tympanum (like the hole in the side of a drum), he suggested that an opening might be made in the membrane of the tympanum, which should serve the same purpose. This first experiment was successful, and some of his future ones; that all should not succeed might be expected from the difficulty of ascertaining whether obstruction in the Eustachian tube were the only disease. Seldom have two sciences thrown greater light upon each other than acoustics and surgery in the present instance. Morbid anatomy may suggest still greater improvements.

The second volume begins with several chapters on hernia. In these Dr. D's plan of quoting is most conspicuous. We are aware that the modern surgery of this subject, is contained almost wholly in two or three English authors, and that their discoveries and opinions must at present be the bases of all systems; but we should have been more gratified to see them expressed in new language. A compiler who thoroughly comprehends his subject, seldom fails to throw some new light on the matters of which he treats. We regret this failing in Dr. D. the more, because what he has written is in general very judicious.

So various, in different cases, is the period to which the operation may be deferred, that almost every surgeon will feel diffident in deciding how long he may continue to use medicinal remedies. And this point is probably the least understood of any in the treatment of strangulated hernia. When, on opening the sac, the intestine is found mortified, the operation has undoubtedly been too long delayed; and yet, such has been the occasional success of applications and remedies long persisted in, that one feels scarcely justified in operating till all hope of such success has vanished. The division of strangulation into two sorts seems best calculated to clear up this difficulty; and by noticing carefully the degrees of violence of the symptoms, and dividing our practice into two distinct plans (early and late operations) much embarrassment will be removed. The following paragraphs, partly from Mr. Lawrence's book, and partly our author's own remarks, very well illustrate the above idea.

"The strangulation in some instances comes on immediately. I have known a patient straining at stool suddenly force down an additional portion of intestine into an old hernial sac; and immediate strangulation was the consequence. In such cases "the symptoms, Mr. Lawrence remarks, come on suddenly, and their progress is rapid: the swelling is tense and highly painful, particularly at the ring, where the slightest pressure is intolerable; the abdomen quickly becomes painful and is tense and elastic to the feel. The constitutional affection partakes of the inflammatory character. So quickly does the complaint run through its stages in this case that gangrene has been known to occur in twenty-four hours from the expulsion of the intestine."

"In other cases the strangulation is slow and progressive. In some of these cases many days elapse before it is complete. In such cases successful operations have been performed a fortnight, and even three weeks after the commencement of incarceration. This slow strangulation generally happens in large old herniæ which have been often protruded and replaced, or which have been long unreduced. There is generally an unusual heaviness and hardness of the tumor in such cases, owing to an increased quantity of the intestine." p. 15, 16.

We have sometimes thought that opium was not sufficiently tried with the other usual remedies. We see no reason why it should not be administered first of all, as it cannot interfere with any other means, and will then have full time to produce its effect. This effect is doubtless lessening the sensibility of the strictured intestine, and of the power which causes the stricture if it be spasmodic; it has often been successful. The effects of cold applications are, we suspect, very analogous,—they diminish irritability and sensibility in the parts over which they are applied. The idea that they are effectual by the diminution in bulk they may occasion, is certainly very crude.

These chapters would have been much more complete, if the anatomy of hernia had been inserted. The correct and elegant dissections which have been made by Camper, Cooper, and others, may be considered as the most valuable addition made to surgical anatomy during the present age. But we have seen some of Mr. Cooper's followers carry the doctrine of the fasciæ much farther than Mr. C. himself; they insist that in every operation the different layers may be made out. We may refer to p. 79 and 80 for circumstances in which Mr. C. thinks the fasciæ will not be observed. Mr. T. Blizard thinks it imprudent to *depend* on finding them. Those however who *will* find these fasciæ, may *make* them with little difficulty. Let it not be supposed that we undervalue a perfect knowledge of these membranous expansions, they are most generally observable, and even when they may not be, the more perfect the knowledge of them, the greater will be the confidence in operating.

Our author is an advocate for dividing the stricture, and returning the contents without opening the sac; and argues in favor of this practice, from our not hesitating to return the intestine by the taxis if practicable. But we think this practice no improvement, and the argument is certainly fallacious. Why should we study the symptoms closely to find whether mortification be begun, and if it be, not return the intestine, and yet when we are on the sac reject the only means of ascertaining this point with certainty? Of the bad effects of air we profess to be very sceptical; but we shall not discuss this point here, as we do not find that our author has made these bad effects an objection to opening the sac.

The application of a ligature for the cure of umbilical hernia is sanctioned by the success which Dessault had in the use of it. He reduced the hernia and applied a ligature round the sac at its base or neck. Dr. Physick has proposed to dissect the skin from the sac and its fascia, and thus apply the ligature without including the skin, which is doubtless a preferable method, and has been successfully adopted by Dr. Wistar. If tying the sac of an umbilical hernia will effect a cure, may we not tye the sack of an inguinal or femoral hernia? there is, indeed, no precedent to sanction it, yet such an experiment would be founded on very strict analogy.

Next follow several chapters on hydrocele, and diseases of the testicle:—after these a chapter on strictures. Our author is inclined to consider the urethra as a muscular canal. We profess not to decide this question; but we do not think that Dr. D. has refuted the reasoning of Mr. Bell. The urethra is beyond doubt an *elastic* canal; but, if it were muscular, would not the corpus spongiosum be superfluous? The use of this envelope is, doubtless, when the cells are turgid with blood, to contract the passage; and if muscular fibres surround it, they can only less perfectly produce the same effect. Elasticity is sufficient for passing the urine and will fully account for the forcing out a bougie, or the urine as in Dr. D's experiment.

From the manner in which our author notices the use of caustic alkali, as suggested by Mr. Whately and Mr. C. Bell, we suspect that he has overlooked the soothing effects of this remedy, and of lunar caustic also, under certain circumstances. This effect is sometimes produced by the destruction of an irritable surface, yet we cannot but attribute it in part to a specific virtue; and there seems to be some analogy between the effect of the soapy compound formed by the caustic and the mucus of the urethra, and that of soap given in jaundice while a gall-stone is passing.

The manner in which Dr. Physick operates for the cure of strictures, and in retention of urine, must be in his hands a valuable improvement; and so it will be in the hands of any surgeon of skill and experience: but it should not have been introduced into a systematic work without greater cautions than Dr. D. has suggested. We do not hesitate to say that it is totally unfit for general adoption; at least in stricture;—no operation for retention of urine should be attempted by ordinary surgeons.

The method of making bougies will be found very useful to such as desire more serviceable articles than are usually found in our shops. See p. 120.

In the chapter on stone in the bladder, there is great deficiency. Nothing is said of the supposed causes of stone; which, however uncertain, might be tested in this extensive country. There is nothing said of the composition of calculi, and but little concerning solvents; which is the greater fault in Dr. D. as he professes to believe in the occasional efficacy of these remedies. As one decided instance of such efficacy, he relates the following case:

"I once dissected a gentleman of this city who had been sounded some years before he died, and a stone was evidently perceived; the sound of the staff striking on the stone was audibly distinct. This gentleman's bladder contained no stone at the time of his decease." p. 148.

This is, probably, the most authentic case on record, of a cure by solvents:—but even this authority is not unimpeachable. Both Dessault and Cheselden operated on patients, who, from sounding, were judged to have stones, but whose bladders were so hardened as to produce the grating sensation, without any stone being contained in them. That such a state of the bladder had existed in Dr. D.'s case, cannot indeed be asserted; it is probable, however, that disease of the bladder, more readily than stone, will yield to the medicines employed as solvents.

Our author is no friend to the innovations of some modern surgeons in the operation of lithotomy; and his whole argument against scalpels and bistouries, is an anecdote of some surgeon in Paris who used one knife for cutting off a limb, cutting out an eye, and cutting for the stone. If it were Dr. D.'s object to mention the gorget only, this might be fair enough; but, as a system-writer, it was his duty to say something reasonable either for or against the use of various knives now used—particularly when we have as authority for employing them, the names of Cooper, T. Blizard, the two Bells, Burns, &c. We need not decide between these instruments; but we have no hesitation in saying that almost any of them must be preferable to an ordinary gorget. Dr. Physick's is undoubtedly the best; but it would, perhaps, have been more perfect, if his moveable blade had been on a Hawkins' gorget instead of Mr. Cline's. The blunt side of Hawkins' stretches the urethra so that the whole sharp edge may cut; half the edge of Mr. Cline's will be lost in distending this canal. Hence the broad edge of the latter, does not make a larger incision than the small edge of the former, and it endangers the pudendal artery in a much greater degree. A part of the opening in every operation, must also be made by stretching or tearing, for no knife or gorget, single-edged or double, can make an incision free enough for the extraction of a large stone. Perhaps, therefore, the following may be adopted as the correct principle in operating;—to divide the urethra, neck of the bladder, and prostate, and, for the rest of the opening, to depend on the mechanical dilatation which the extraction of the stone will effect: when the stone is *very* large, the opposite side of the urethra is to be cut. If this principle be correct, we need never divide the pudendal artery,—if this principle be correct, the straight bistoury of Mr. Blizard is the best instrument for performing lithotomy.

The next chapter which arrested our attention, is that on aneurism. We were not a little surprised to find our author an advocate for the old theory of dilatation of the coats of an artery. Most surgeons seem at present agreed, if dilatation ever occur, it does but rarely. Dr. Dorsey, however, totally dissents from the doctrine maintained by Scarpa, and thinks that absorption of the coats is similar to the absorption of surrounding parts,—both originating from the pressure of the aneurism. We shall comment freely on this chapter.

A quotation from Scarpa's preface is first given, to shew that he was bold and not a little enthusiastic in his theory. But the quotation should have been somewhat larger. The sentence begins, "after a number of investigations instituted on the bodies of those who had died of internal or external aneurisms, I have ascertained," &c. and the paragraph following the quotation, begins thus.—"In instituting these researches on the dead bodies of aneurysmatic patients, I have employed the greatest possible care, especially in unfolding the proper coats of the injured artery;" &c. see preface, p. xi, xii. With these his dissections, he compared "the most celebrated descriptions and figures which we have of aneurism," and, from the whole investigation, he was induced to believe, that the rupture of the internal and muscular coats of an artery, in consequence of disease, always precedes the formation of the aneurismal tumor. We doubt whether any surgeon has had equal opportunity for observation; and we are anxious to know on what dissections Dr. D. grounds his "total dissent;" in "recording" which he seems to have as great boldness and enthusiasm as he condemns in Scarpa. Nor is Scarpa's opinion novel, as Dr. D. asserts; for Hildanus and Servetus maintained the same doctrine before. And as these, with several others, (p. 66, of Scarpa's translation,) had tested the opinion by anatomical investigation,* our author is again incorrect in alledging that it "is the result of his (Scarpa's) individual observations.

In the first paragraph of his chapter, our author has noticed a decisive experiment of Mr. J. Hunter and Sir Everard Home, "who dissected off the outer coats and adventitious support of an artery, and the internal coat alone being left, was found sufficient to continue the circulation without acquiring any increase of volume at the injured part." This is proof enough that as long as the internal coat is unimpaired in structure it will not dilate, and we are disposed to believe that this coat is less frequently impaired than is apprehended by Scarpa. We would refer Dr. D. to his own preparation, to examine whether the internal coat be not perfect altho' adhering closely to the morbid structure, or else, whether there be not a little scale of "steatomatous, earthy, degeneration" either piercing this coat, or apparently lying upon it. We have a preparation of this sort, taken from a man who died of aneurism of the aorta. It is part of the aorta, on which is a cluster of these diseased spots, or rather one space of degenerated structure as large as a cent. The internal coat, apparently sound, covers the whole of this space, except at a few points where it has given way (or nearly so) to the earthy degeneration. In this case, therefore, and we have seen several such, the internal coat is not impaired in structure. Nor is the muscular coat the seat of the earthy degeneration; ossification, we know, is a disease of the coat called muscular, but the two diseases are very different. The seat of aneurismal disease seems in this case, to be the fine cellular substance connecting the internal and muscular coats; or, if we are to consider this cellular substance as part of the internal coat, we must be understood to assert, that it is the internal very membrane which is unimpaired in our preparation. We feel somewhat diffident in offering this modification of Scarpa's doctrine, particularly as our proofs are so limited; but, as we feel no great enthusiasm in the matter, we shall not be abashed if our observations should not be confirmed by those of other surgeons. They agree, however, most perfectly with the doctrine in question. When the aneurismal degeneration takes place, as we have stated it, the internal coat is pressed upon by an unnatural substance, and is, of course, gradually absorbed; when the earthy point has penetrated, the blood will find a passage through the internal coat, it will separate some of the fibres of the muscular coat, and the cellular coat will gradually distend and form the sac, or rather, it will increase as any part of the body grows, by absorption and deposition. We trust that in this theory, there are no very "imperfect views of the physiology and pathology of the absorbent system."

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* Barbette, after stating the doctrine explicitly, adds, "Anatome sententiam nostram confirmat."

But the matter does not depend on theory; Scarpa has proved it by dissection. He traced the several coats, and found that the internal and muscular did not extend over the tumor; the aperture of the artery is often callous, and sometimes fringed, the latter producible in no other way than by irregular absorption or laceration, and the former denoting an unnatural surface.

Although we have criticised freely this theory of our author, we agree most perfectly with him in his practical ideas. Compression we are glad to find struck from the list of remedies; it is mentioned only incidentally, and in no wise commended. Compression is as unsurgical a practice as could well be devised; its average of success is infinitely beneath that of the operation. It cannot be expected to excite an adhesive process in any but a healthy artery, seldom even in this,—much less in a sac almost disorganized. Its success most probably depends on the vessel becoming stopped by a clot, and this has as frequently occurred where no compression has been used. It increases the pain, and generally the size of the aneurism, and lessens the chance of the fortunate issue of the operation. We cannot conceive a case in which it should be preferred, except when an artery has been just wounded; and it should be recollected that the vessel will not heal, and remain pervious, without danger of aneurism, but that the cure will depend on obliteration of the tube by the effusion of lymph from the wounded orifice.

In internal aneurisms, when no operation is practicable, we would unite most cordially with our author, in recommending Valsalva's method of treatment, low diet, approaching to total abstinence, and frequent venesections. Although this can scarcely be of itself a remedy, yet it will, by mitigating the disease, prolong life; and should a clot be fortunately driven into the vessel, the enfeebled circulation may sustain the shock, which in a vigorous condition might prove fatal. Mr. Pelletan, a French surgeon of great experience, has proved the efficacy of Valsalva's proposal more fully than any other we have heard of. We have not seen his "Clinique Chirurgicale," but find, from the London

Medical Review, that his success has been very encouraging. One patient submitted for only eight days to this rigorous treatment;—his aneurismal tumor (at the root of the aorta, and projecting between the ribs) greatly diminished; but he returned to "very drunken and irregular habits," and died with the tumor much enlarged. Another patient submitted to be bled profusely, and to a "most rigorous diet for a week or more," when the pain and pulsation of the tumor (also an aneurism of the aorta) ceased. His diet was gradually improved, and at the end of a month he was discharged cured; "he died two or three years after of another complaint." The same plan was tried with success on a patient who had an axillary aneurism, too large to be operated on.

The operations are next described, and several cases given. In describing that for popliteal aneurism, Dr. D. directs the external incision to be made rather *below* the middle of the thigh, and yet he says nothing of raising the sartorius, so that he must tie the artery considerably *above* the middle of the thigh. We looked for a list of errata, but not finding any, we have suggested this correction for the benefit of our younger readers.

We have extended our remarks to such a length that we are unwilling to say more on the contents of this volume. Such as remain are of less importance, although several of the articles might afford matter for criticism. Mr. Hey's manner of amputating on the foot is omitted; also Mr. A. Cooper's imprvoement in the treatment of spina bifida, which was re-published in this country before Dr. D.'s second voume. To us it appears that the subject of ulcers is made unnecessarily complex,—this, however, is perhaps mere matter of opinion. We waive any detail on these or other subjects; and we willingly bear our testimony to the general excellence of these volumes, in the hope that they are the earnest of a complete system, a work much wanted, and for which Dr. Dorsey has proved himself to be well qualified.

IV.

Treatise on the History, Nature, and Treatment of Chin-cough; including a variety of Cases and Dissections. To which is subjoined, an Inquiry into the relative Mortality of the principal Diseases of Children, and the numbers who have died under ten years of age, in Glasgow, during the last thirty years. By Robert Watt, M. D. *Member of the Faculty of Physicians and Surgeons of Glasgow, Member of the London Medical and Chirurgical Society, &c. and Lecturer on the Theory and on the Practice of Medicine in Glasgow.* 8vo. *pp.* 392. *Longman and Co.* 1813.

We have much pleasure in announcing to our readers the publication of this valuable work. The disease of which it treats is indeed familiar enough to our observation, but, like some others, it has not experienced that attention from practitioners, which its importance and fatality ought to have secured. Every family expects its visitation, and it has become a prevalent fashion to permit this malady to pursue its course with little interruption or assistance, unless such as is afforded by gossips, amulets, or domestic recipes. Is this abandonment of a most serious ailment to feeble, rash, and unauthorised hands, to be attributed to the inefficacy of medicine, or to the negligence and apathy of practitioners? We are disposed to inculpate the latter, and moreover to opine, that whenever the cure of a disease becomes intrusted to unprofessional hands, or that the medicines are supplied duly stamped, a newspaper advertisement, the sole guide and director, from a medicine warehouse, the source of such a sacrifice of understanding, must arise from the conduct of regular practitioners themselves. In the present instance, medical men have been forward to acknowledge that the disease depends upon a peculiar contagion, will run its course in spite of medicine, and the practice they have pursued has too frequently consisted of uncertain, trifling, and unscientific remedies. Medicines the most opposite in quality and effect, have been given upon empirical principles, which it ill becomes such practitioners to adopt and apply, as are forever exclaiming against quackery, and denouncing its pernicious consequences.

Fatal as hooping cough appears to have been from the earliest records of its appearance, Dr. Watt has been able to discover very few works of consequence upon the subject. He could not trace it in the writings of the Grecian, Roman, or Arabian physicians; while in Britain, and most parts of Europe, no period can be assigned in which the disease did not exist; in London it increased rapidly during the last century; and in Sweden, according to Dr. Rosenstein's account, chiefly taken from the bills of mortality, 43,393 children died of it between the years 1749 and 1764. In the year 1755, 5832 children were carried off by this distemper; and in the years when it has raged with less fatality, about 1700 or 2000 are lost by it.* In Glasgow, the scene of the author's observations, it has continued very uniform for the last thirty years, but rather on the increase. In some years the number of deaths is greatly more than in others, but on the whole it has run pretty nearly about five, or from that to five and a half per cent. of the whole deaths in the city. The greatest number of deaths by chincough in Glasgow, during the last thirty years, was in 1809, when they amounted to 259, or something more than eleven and a half per cent. of the whole deaths in the year. It is somewhat singular, that in the last twenty-five years, there have been only six single months in which some have not died of chincough; and in the last twelve months, not a month has elapsed without a death. Next to the small-pox formerly, and the measles now, chincough is the most fatal disease to which children are liable.

The author considers the disease as highly infectious, and arising from a specific contagion, the degree of which depends on the state of the atmosphere. There are very few instances recorded in which it is supposed to affect a person more than once. It chiefly occurs in infancy and childhood, though no age is exempt from it. From a table inserted, it appears that March is the most fatal month; and that fewer die in the months of July, August, and September, than in any other part of the year. It has also proved much more fatal in some years than in others.

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* On the Diseases of Children, and their Remedies, p. 194.

The author thus describes the early symptoms:

"The chincough generally begins like a common cold, attended with more or less fever. The lips appear full, some degree of hoarseness and sneezing succeed, with a redness or turgescence of the face, and generally a watery irritating discharge from the eyes and nostrils. The patient has a greater disposition to sleep than usual, some difficulty of breathing or oppression about the chest, with a hard dry cough. The appetite is somewhat impaired, attended with a costive or irregular state of the bowels. The patient complains more than usual of cold, particularly in the back and extremities. After some days, the reverse of this takes place, he then complains of thirst, and a sense of heat over the whole body, the skin feeling harsh and dry.

"During the continuance of these symptoms there is occasional headach. The tongue is a little whiter and fouler than usual. The pulse is somewhat accelerated, and now and then irregular.

"This febrile state, which attends the commencement of chincough, resembles in many respects the fever which precedes the measles or the small-pox. In some cases it is so mild, and continues so short, as hardly to deserve notice; in others it is more severe and protracted.

"In the generality of cases, as the kinks begin to form, the catarrhal and febrile symptoms abate, and the patient in the intervals feels himself quite well; but in others the fever continues, the kinks are less regular, and in the intervals the patient is languid and oppressed. The tongue continues foul, and the appetite bad. The pulse in these cases is weak, excessively quick, and often irregular. The skin assumes a livid colour, while the patient's flesh and strength decline rapidly. This is one of the worst forms of the disease, and is most apt to occur in the young and plethoric. It is often fatal, for the danger is not apparent, till it is too late for any remedy to be of service.

"It has been remarked, that the chincough generally begins like a common cold. In some instances it continues in this form throughout the whole course of the disease. 'I have had instances of a disease,' says Dr. Cullen, 'which though evidently arising from the chincough contagion, never put on any other form than that of a common catarrh.'* The same circumstance has occurred within my own observation; and Mr. Burns remarks, that 'in young children, even death may take place, although the disease never fully forms.'†

"*Description of the paroxysm.*—Commonly about the end of the second, or beginning of the third week, the symptoms undergo a very remarkable change. During the cough the expirations become extremely rapid and altogether involuntary. By the continuance of this process the air is suddenly expelled from the lungs, and the patient appears in danger of suffocation. At last he is relieved by a full and violent inspiration, generally accompanied by a stridulous noise, like the crowing of a cock, or the rapid passage of air through a narrow brazen tube. The convulsive expirations are again renewed, and the paroxysm, consisting of these two parts alternately, is continued till relief is obtained either by expectoration or vomiting. The matter rejected is generally a tough mucus, occasionally mixed with the contents of the stomach, and sometimes with particles of blood.

"This manner of terminating the paroxysm, however, happens only in the more favorable cases; in the more severe, the proxysm ends in the complete exhaustion of the patient, without any discharge whatever.

"The expirations during the kink resemble those of a common cold; but are much more rapid and violent. The inspirations, in most cases, bear a very strong resemblance to those of well-formed Croup. It is from the peculiar sound produced by the last of these processes that the disease has been termed *Hooping* cough. The *Hoop*, however, is in many cases completely wanting, and the patient feels no obstruction to the taking in a full breath, 'I have said,' observes Dr. Butter, 'that the kinkcough is *generally* attended with a shrill inspiration; because it sometimes occurs without that symptom. Such a defect constitutes a variety of the disease, which may properly be denominated the *imperfect Kinkcough.*'*

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* First Lines of the Practice of Physic, Section 1406.
† Principles of Midwifery, &c. p. 541, 2d Edit.

"It may, perhaps, be owing to this difference in the nature of the kinks, that in the Bills of Mortality for London, particularly about a century ago, some of the deaths are arranged under the head of chincough, and others under that of Hooping cough. Even in later periods, from the manner in which the two terms are introduced, one would naturally conclude that two distinct diseases were meant. Be that as it may, with regard to the circumstances of having or wanting the *Hoop*, I have remarked a very striking difference, which deserves to be noticed. In one set of patients we have the *Hoop* very long and distinct; but in these the expirations are less rapid and violent. The patient seems to gasp and strain rather than cough. The face is dark-coloured, the eyes are turned up, and there is generally a tendency to fainting or strangulation. The patients affected in this way are generally the very young and the plethoric. In the other set of patients, the expirations are rapid; and so very violent, that, to use the common expression, they look as if they would burst. The face in such cases is of a bright scarlet colour, the eyes fiery, and as if they would start from their sockets; but inspirations are performed as soon, and apparently with as much ease, as if nothing were the matter. Cases of this kind occur in the older and more robust.

"These bursting kinks, as the disease advances, become less violent. The expirations produce a sort of barking noise, and the cough is less confined to regular paroxysms. Sometimes the expirations are of this kind from the beginning, and continue so throughout the whole course of the disease. Mr. Burns perhaps alludes to this form, when he compares the cough to 'the chattering of a monkey quickly repeated.'*

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* Treatise on Kinkcough, p. 3.

"Dr. Gregory, sen. has noticed a very curious variety of the disease, of which Dr. Kirkland gives the following account: 'Duos notavit casus celeberrimus noster Præceptor Gregorius, quibus non continuo tussiendi paroxysmo sonora inspiratio, sed loco inspirationis syncope superveniebat, et, aliquot horæ sexagesimis post syncopen interjectis, demum subsequebatur, solito more, inspiratio et alter tussiendi paroxysmus.'†

"When the kinks are of the Hooping kind, the face, as I have already remarked, becomes swollen, and of a dark purple colour, the veins of the head and neck are distended as if ready to burst, and the patient gasps, and has the appearance of sudden suffocation. If he remains long in this situation without making any noise, he is said to have taken a *dumb kink*. In those violent efforts the extremities become cold, a sweat breaks out on the forehead and temples, and even blood is frequently forced from the nose, mouth, ears, and eyes. In many cases the patient is actually suffocated, falls into a faint, or is seized with convulsions, When the inspirations are long and very difficult, the patient is said to have fallen into the *back draughts*. This symptom is generally regarded as little better than the *dumb kink*, both of them showing the disease to be of a very unfavorable nature.

"We have seen that in children the form of the kink is very different: in adults we meet with a similar variety; but the hoop seldom or never occurs. The bronchial system, at this period, is perhaps incapable of taking on that morbid state on which it depends. In two young women between twenty and thirty, the kinks were very severe and frequent. The face was flushed, and the whole body much agitated; but there was no apparent difficulty in the inspirations. In the lady's case, who had this disease along with her children, the kinks were of the same description, but accompanied with a most violent headach. These were the only adults I remember to have seen under the disease.

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* Principles of Midwifery, &c, 2d Edit. p. 541.

† Dissertatio Inauguralis de Pertussi, p. 3. 1772.

"Dr. Heberden remarks, that 'adults are, as it were, overpowered at once upon the access of the fit, so that they fall down instantly, as in an apoplexy, but they very soon come to themselves; this is a distinguishing symptom of the disease in those who are grown up.'*

"Dr. Butter gives the case of a woman of thirty, the mother of several children, and at the time in a state of pregnancy. He does not mention any affection of the head among the symptoms, but remarks, that 'sometimes the fit was so severe as to threaten suffocation. She sometimes expectorated a white thick phlegm, and then the fit was short. A severe fit was always attended with a clear ropy expectoration. She complained also of pain in her right side, which sometimes shot through to the other, and sometimes downward, so as to imitate labor pains.'† The disease was subdued in a short time by the use of hemlock and other remedies. The patient was afterwards delivered of a healthy child, and had a good recovery."

The fits vary much in frequency and severity, and recur at irregular intervals. The appetite is various, at times voracious, at others impaired. The author considers a great desire for drink a bad sign, and deems a free indulgence hurtful. He thinks "a tea-spoonful or two will quench the thirst as well as a full draught, while it weakens and oppresses the stomach much less." In this particular we cannot unite with him in opinion, having never witnessed any unfavorable circumstance from allowing a child a moderate portion of any aqueous beverage. Dr. Watt had previously remarked, that nothing brings on a fit of coughing more readily than "fretting the patient." Now, we can hardly conceive any thing more likely to fret a child parched with thirst, and exhausted with the violence of former paroxysms, than snatching the honeyed cup from his lips before he had well tasted the refreshing beverage.

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* Commentaries on the History and Cure of Diseases, p. 434.

† Treatise on the Kinkcough, p. 61.

Some judicious remarks occur on the fever which is present in Hooping cough, and which in some instances nearly resembles Typhus. The author points out three states of fever as deserving of particular notice; the first is that anomalous febrile state, which accompanies, more or less, even the mildest forms of the disease. It seems to partake more of the inflammatory than the typhoid type. The pulse is variable, easily accelerated, rather hard, and at times irregular. The second state is typhoid. "In this state there is nothing so remarkable as the quickness of the pulse. From being full and moderately slow, it passes at once to almost insuperable frequency, and is often so weak as hardly to be felt." The third state of the fever is decidedly inflammatory. "The pulse is not so quick, but it is full and hard, attended with considerable difficulty of breathing, occasional pains in the chest, increased heat, loaded tongue, and all the other signs of pneumonic inflammation.

The author has less to observe on the state of respiration in Hooping cough, than we think requisite; we have no objection to his drawing upon Dr. Darwin, for the practical remarks of that writer are always valuable; but in a work evidently considered by its author as the only complete account of the disease of which it treats, we did expect to be favored with some original observations upon this very important function; as it is, the following paragraph comprises the sum of the author's information.

"From the state of the pulse, and the state of the breathing we can draw more certain conclusions, as to the nature and severity of the disease, than from any other circumstance whatever. *I have never met with almost any case*, where either the one or the other was much affected, where there was not very considerable danger; and none where the two symptoms were conjoined, that did not prove fatal, unless opposed by the most vigorous treatment."

We are not clear that our conception of the author's statement, "I never met with almost any case," is correct, but we suppose him to mean that he *has* met with cases in which either the pulse or the breathing were much affected, without "there being considerable danger."

Among the unfavorable symptoms, Dr. Watt has noticed the urine deficient in quantity, of a high colour, becoming turbid on standing, the patient having a frequent desire to void it, while the quantity discharged is very small; the skin uncommonly dry and insensible to the touch; a pale leucophlegmatic appearance; skin, especially of the face and extremities, of a livid and dark colour; œdema of the feet and hands; nostrils dry and itchy; cutaneous eruption, if any, disappearing.

The reader will meet with some valuable remarks on the termination of the disease, the diagnostic symptoms, and symptoms of Bronchitis, which we have not space to detail. The account of the opinion of early writers on hooping cough, will also prove interesting to the medical scholar. The length to which this article has already extended, will not permit our citing any of the author's cases; but we shall avail ourselves of his account of the dissections because they are much less frequent than in most other diseases. We are all of us well acquainted with the symptoms of hooping cough, yet few of us have investigated the appearances after death.

The first dissection was of the author's own son, aged six years.

"The body was opened by Mr. Robert Limon, a pupil of mine, sixty-five hours after death, and the following notes were taken at the time by my friend, Mr. William Couper, surgeon, of this city.

"'The lungs appeared to fill the whole cavity of the thorax more completely than they generally do.

"'The anterior surface of the lungs appeared as if covered with whitish-coloured flat tubercles, (not unlike bad confluent small-pox,) as if some white fluid had been effused under the covering pleura, On making some incisions into the substance of the lungs, the cells were found filled with a whitish purulent-looking mucus, with only a small admixture of air. The cells immediately under the investing pleura, thus filled, were the cause of the external appearance of the lungs above described. Some very small portions of the lungs appeared to have the cells less full of this mucus than the rest, the external surface of these portions having a more natural appearance.

" 'The posterior surface of the lungs had a brighter appearance than the anterior, having more the look of recent inflammation.

" 'The inside of the trachea from the thyroid gland downwards, to an inch below the bifurcation, had its inner surface smeared over with the same kind of mucus, as that filling the cells of the lungs. Beyond this its branches appeared completely filled with the same mucus.

" 'The whole inside of the trachea, and its ramifications, was painted with red vessels, appearing to have been the seat of recent inflammation.'

" At this time it was thought unnecessary to carry the investigation farther; but next day my friend Mr. Muir, of Paisley, expressed a wish to ascertain the state of the stomach and bowels. In consequence of this the abdomen was opened, and the following notes were taken by Mr. Muir respecting the contents. It should be remarked, that even at this late period, there were hardly any signs of putrefaction.

" 'On laying aside the integuments, the intestines and stomach presented themselves in a very white or bleached-like appearance. There was a long patch of inflammation on part of the small intestines, and beside it another smaller mark of recent inflammation. A similar appearance was found on one part of the great arch of the colon, in which there was no fæces, but a little thin greenish coloured fluid.' The mesocolon was wholly very dark coloured, nearly approaching to gangrene. On turning up the stomach, the under and external surface was as if painted with a brown colour, like new burnt coffee in appearance, and there was little of it free from traces of this colour. It was as if laid on with long strokes of a brush half an inch broad. Some of them were, however, narrower and shorter than others. On laying open the stomach, the internal surface had numerous read streaks, the marks of recent inflammation; there was an universal crust of lymphatic exudation, and much of it was collected in the upper part, owing to the position of the viscus when the body was examined.' "

Dissection 2.—Janet Watt, sister to the above, aged four years and a half. Her body was opened twenty-five hours after death, and the following notes taken by Dr. Graham:

" 'The skin is generally of a livid colour, and very dark in some places, an appearance which it had a tendency to assume some time before death. There were no signs of putrefaction. On opening the chest, the lungs were found of a purple colour, irregularly interspersed with whitish spots slightly elevated, which were found to be owing to a mixture of mucus and air under the pleura. There were no adhesions between the pleuræ, but the lungs had not collapsed nearly so much as usual. On the convex surface of the right lung a very small quantity of tough purulent-looking matter was observed, which seemed to have escaped by one or two small openings in the pleura, whether the consequence of rupture or erosion could not be determined. Similar matter was found interspersed through the substance of the lungs, but there was no where any cyst containing it. The lungs felt knotty, and uncommonly firm in some places; but on cutting into them no tubercles, such as are met with in phthisis, could be detected. In some places though their bulk was increased, they were firm, and sunk in water; in others they sunk from being collapsed, though not indurated. The pleura costalis seemed rather more vascular than common. The trachea was slightly inflamed on its internal surface, and covered with a quantity of frothy mucus, intermixed with small portions of a purulent-like matter, which increased in quantity downwards, till it nearly plugged up the smaller ramifications. Before opening the pericardium, it seemed to contain a larger quantity of fluid than is usually observed, but it having been accidentally punctured, any fluid it might have contained escaped, without being noticed.

" 'The abdominal viscera seemed sound. The gall-bladder was full of dark-coloured, thick, viscid bile.' The head was not examined, but from the nature of the symptoms, there was little reason to expect disease in that quarter."

Dissection 3.—Margaret Beaton, aged three years and three months.

" The body was opened forty hours after death, in presence of Mr. Russel, several of his pupils, and myself. The skin was more livid than usual, but there was no signs of putrefaction.

" 'On opening the chest, the lungs appeared to have collapsed about as much as usual. Their anterior surface was more irregular than is generally found, and thickly mottled with a whitish ash colour. These whitish patches occupied about two thirds or more of the whole surface of the lungs, and were slightly elevated above the rest. Pressure on any part of the lungs produced or increased these whitish spots, around where the pressure was made, apparently by forcing along the air and mucus under the investing pleura. Almost the whole of the right lung had nothing of a cellular feel, but, as Mr. Russel observed, it felt like a piece of spleen or liver. On cutting into the substance of the lungs in various places, the air cells appeared to be filled with a viscid semipurulent mucus, which oozed out in great abundance. A considerable margin along the lower edge of each lung was of a bright red colour, felt solid to the touch, and when cut off, sunk readily in water.

" 'On laying open the upper part of the trachea, its internal surface was of a reddish floculent appearance, but without any inflammatory exudation. This inflammatory appearance increased as we proceeded downwards, till, in the more minute ramifications of the bronchiæ, the whole surface was of a bright red colour, as if painted; but still there was little or none of that purulent-like mucus, usually found on inflamed secreting membranes. As far as we could trace these passages, the ingress and egress of the air appeared to be unobstructed.

" 'There were numerous adhesions between the right lung and the pleura costalis of that side; but these appeared to have been of some standing, or perhaps had no connexion with the present disease. They were more probably the effects of a pneumonic attack, which she had about a year ago, and since which she has always had more or less dyspnœa, particularly on any considerable exertion.

" 'The contents of the abdomen appeared to be sound, with the exception of about a foot of the ilium, which was very vascular, and of a red colour. Part of the mesocolon appeared also to be somewhat redder and more vascular than usual.

" 'On removing the skull cap, the dura mater adhered to it very firmly, but did not show any signs of disease. The veins over the surface of the brain were very turgid, but perhaps not more so than we usually find them in young subjects. There was no water in the ventricles, and the other parts of the brain appeared to be perfectly sound." '

Dissection 4.—Miss K. aged four years and a half.

" The body was opened twenty-five hours after death by Mr. Limon, in presence of Mr. Russel and myself, and the following notes were taken.

" 'The body appears very much emaciated. The skin is darker than usual, and stained here and there with livid spots. Left arm and leg œdematous. A place on the breast and neck, where a blister had been recently applied, of a dark livid colour. No signs of putrefaction in other respects.

" 'On opening the thorax, the lower part of the right lung was found to adhere firmly and extensively to the pleura costalis of that side. This portion of the lung seemed to be enlarged, and occupied fully that portion of the chest. It was of a whitish colour, had lost all appearance of cellular structure, and on being pressed with the finger, it felt hard and gristly in some parts, and soft and pulpy in others.'

" 'On removing the adhesions, a large abscess was discovered, ramifying through this part of the lung in all directions, and partly filled with purulent matter. The immediate parietes of the abscess were of a dense cheesy consistence, and varied from a quarter of an inch to an inch in thickness. Beyond this solid portion, the whole substance of the right lung was interspersed with tubercles, exactly similar to those met with in ordinary cases of pulmonary consumption. Many of these tubercles were smaller than peas, and some of them as large as hazel nuts. Some of them were slightly, others more extensively inflamed, and many of them were in a state of suppuration.

" 'The whole surface of this lung was covered with a layer of inflammatory exudation, and in many places the investing pleura appeared to be very much eroded and destroyed.

" 'The left lung was much more collapsed than the right, and exhibited those irregularities on its surface, and the same mottled appearances described in former cases. On examining its substance between the finger and thumb, it was found to have the same tubercular feel as the right, and much more solid than natural.

" 'Some parts had a peculiar reddish purple colour, and felt more uniform in their texture than the rest. The colour of these portions seemed to depend on the quantity of blood contained in them. When cut off, they sunk readily in water.

" 'On cutting into this lung, the number of tubercles was nearly as great as in the right, and were as much diversified in point of size, but fewer of them had arrived at a state of suppuration. On this side there were no adhesions, and the investing pleura did not appear to have suffered from inflammation as in the right.

" 'The mediastinum appeared to have suffered in the first instance from inflammation, and latterly its cellular portion had become œdematous. On pulling out the sternum, part of it adhered to its inner surface, and part of it remained floating between the lungs like a quantity of jelly. The pericardium contained a much larger quantity of fluid than usual, but the heart itself appeared to be sound.

" 'The whole of the larynx and trachea were then removed out of the body and examined. The glottis and epiglottis were slightly inflamed. The internal surface of the trachea was also a little more vascular than usual, and was covered with the natural mucus. On proceeding farther down, the vascularity seemed to increase, but even on entering the bronchiæ, it hardly deserved the name of inflammation. At no place, as far as it was traced, could any thing like a lymphatic coat be discovered. Here and there we could perceive some particles of purulent matter, but these had evidently arisen from the abscess in the lungs.

" 'On opening the abdomen, the liver was found much enlarged, extending into the left hypochondrium, and downwards into the umbilical region. Its surface was of a whitish ash or clay colour, resembling boiled liver. The structure did not appear to be much changed, but the whole substance felt somewhat denser than usual. The gall bladder was full of a thin light-coloured bile.

" 'The spleen was also enlarged, and its surface was rough and vascular, as if it had suffered from inflammation.

" 'The stomach was very much contracted, being little more capacious than the rest of the intestines. The internal coats were much corrugated, but no signs of disease. It contained a small quantity of fluid like thin gruel.

" 'The intestines were here and there of a dark colour, but this seemed to depend entirely on these portions having lain in a more depending posture than the rest. Owing to the want of time, the head was not examined. But we had little reason to expect any morbid appearances in that quarter.' "

For the treatment of this disease, Dr. Watt has enumerated all the most favorite and approved remedies of the writers, which he has with much industry consulted; and though we do not find any thing novel in this part of the subject, we think he has fairly weighed the merit of the several modes of cure which he has noticed, has shown what combinations of medicines are most likely to succeed, and pointed out others which have less beneficial effects than have usually been attributed to them. This part of the work occupies 130 pages.

An appendix is subjoined, which contains a very interesting inquiry into the relative mortality of the principal diseases of children, and the numbers who have died under ten years of age in Glasgow, during the last thirty years. We shall content ourselves with selecting a few extracts.

"Taking an average of several years, I found that more than a half of the human species died before they were ten years of age, and that of this half more than a third died of the small-pox, so that nearly a fifth part of all that were born alive perished by this dreadful malady."

Since the introduction of vaccination, the proportion of deaths from small-pox diminished in an astonishing degree; but on the other hand the fatality of measles was very much increased. "In the small-pox we have the deaths reduced to nearly a fifth of what they were twenty-five years ago; in the same period, the deaths by measles have increased more than eleven times." Thus, as the small-pox disappears, measles advance to keep up the usual waste of human life. The fact with regard to Glasgow is indisputable, and the author thinks that measles must in some degree be modified by small-pox. "That the measles (he remarks) should have been thus modified by the small-pox, is rendered highly probable by various analogical facts. The manner in which the vaccine disease prevents the small-pox is quite in point, and when it has failed in preventing them altogether, it has rendered them so mild, as not to be attended with the smallest danger. May not small-pox have a similar effect with regard to measles?"

This is an important subject for inquiry, but we have little apprehension as to the result. We are somewhat surprised indeed that a writer possessed of so much acuteness and spirit of investigation as is Dr. Watt, should have so readily embraced a conclusion founded on analogy ; that, admitting the facts, he should have taken so little trouble to find other causes than that which he has alleged. Neither do we think his argument much strengthened by his quotation from Dr. Woolcombe, who makes Providence create children for the mere purpose of destroying them. "Since disease," says that physician, "is one of the appointed checks to excessive population, and the plan of Providence in the creation of human life, requires the termination of the existence of one third of its creatures, before they have attained the age of two years, it may be doubted whether the annihilation of so efficient an instrument as small-pox can be admitted without the substitution of some other equally destructive malady." It it not for such insignificant beings as reviewers to canvass the particular designs of Providence in the creation of man ; but without flying at so high a quarry, we may be allowed to question the propriety of calling in the Deity upon every occasion, to solve difficulties which a little attention on our own part might possibly explain. If men by debauchery unfit themselves for generating a healthy progeny, are enfeebled by the operation of poverty and unwholesome employments; or match themselves to unfit help-mates, are they to call in question the mercy of God, and accuse him of those consequences which are the natural result of their own misconduct ? Epidemical disorders, indeed, seem to be beyond the control of man ; but we well know that his mode of living and peculiar circumstances have a very modifying effect upon them, and even these may be explained without invoking Apollo.

We have not had an opportunity of comparing the London bills of mortality with those of Glasgow during the period Dr. Watt describes ; but as far as extensive public practice in a wide district, and inquiry from physicians in great practice in other neighborhoods, can inform us, the fatality of measles does not appear to be increased in London since the introduction of vaccination.

It seems the number of still-born children at Glasgow has increased something more than a per cent. and a half on the whole deaths. Dr. Watt, however, does not accuse either small pox or cow-pox of occasioning this misfortune, but attributes it to "the introduction of particular manufactures, by which immense numbers of women are employed in public works or confined to sedentary employments, by which the general health and vigor of the system must be materially impaired." "From this cause we may calculate not only on a greater number of dead-born children, but on a more puny offspring in general, and consequently on a greater number of deaths in infancy." So say we, and may not measles be influenced by such causes? The only fatal cases which have occurred to us, and these are very few, were precisely under such circumstances, the puny offspring of mechanics, dwelling in close unwholesome apartments.

In concluding, we hope that the spirit of inquiry on the subject will go forth, and that we shall shortly have accounts from different parts of the kingdom. If we have differed in opinion from the ingenious author, it has been, we trust, from the same desire for truth, and to encourage that ardor for investigation in others, which he possesses in an eminent degree.

Esse enim contemplationem veritatis, omni operum utilitate et magnitudine digniorem et celsiorem.

V.

Medico-Chirurgical Transactions, published by the Medical and Chirurgical Society of London. Volume the Fourth. London, 1813.

We have been fortunate enough to obtain a complete set of this work, the most valuable perhaps of any medical collection ever issued from the British press. In our last we selected a review of the third volume, we shall now attempt an analysis of the fourth; and, as is obviously proper in reveiwing foreign books, we shall quote largely. With the merits of this volume we have little concern; to offer our readers an epitome of its contents is our principal object. Yet we cannot help remarking that there are several articles which are scarcely worth publication, or if they are, would more become the pages of a periodical journal. To expose these, is the business of the English critics.

The volume before us opens with "observations on the venereal disease" by Mr. Fergusson, inspector of hospitals to the Portuguese army. He represents it as ordinarily treated among the natives of Portugal with very little medicine, and indeed as almost spontaneously cured. Mercury is there used to a very limited extent, and the primary symptoms are generally removed by topical remedies. Sarsaparilla, and other vegetables have full power over the disease in that country, and in Brazil.

"With the natives, the disease is very mild; curable for the most part by topical treatment alone, or wearing itself out, when received into the constitution, after running a certain course (not always a very destructive one) without the use of any adequate mercurial remedy." "They go out cured by topical remedies alone; and I have lived long enough amongst them to ascertain that their return to the hospital under such circumstances for secondary symptoms, is far from an universal, or even a frequent occurrence."

"The venereal list amounts to forty-six; they had all been several weeks in the hospital previous to my arrival, and two of them only were taking mercury, in an alterative form, for a supposed affection of the bones; the rest, being only primarily affected with ulcers and buboes, or secondarily with ulcers in the throat, were, with one exception, doing perfectly well from topical remedies alone; quite as well, certainly, as an equal number of patients, under the most favorable circumstances of a mercurial course for an equal number of weeks, could be supposed to do in an English hospital: and all will soon be discharged apparently cured, without having had further recourse to any mercurial remedy, unless my longer residence here enables me to enforce its use. I ought here to explain, that none of the ulcers are such trifling cases of chancres as we have seen at home, which can often be dried up with a piece of lint; nor even such as an English soldier would run with in affright to seek the succour of his surgeon. To these, the Portuguese soldier pays no attention whatever; but they are large extensive ulcerations, &c. p. 2, 4.

Mr. F. attributes the mildness of this disease to its having (as it were) exhausted itself in Portugal; that is, in former ages it run its course with little or no control from medicine, it raged with the most violent symptoms, and infected the population very generally, so that its strength is almost spent, and the disease has exhausted most of its venom. Small-pox also is in Portugal a mild disease.—We omitted to mention that the syphilis among the British troops was as malignant as in England, or even more so.

Dr. Percival of Dublin, relates that a healthy female, aged seventeen, in consequence of exposure to a draught of cold air, became the subject of a paralytic affection of the face and neck. For the relief of this, blisters were prescribed, which produced strangury. Afterwards there came on a sort of hysterical affection, or rather catalepsy, of a most obstinate character, attended with great irritability of the stomach. The disease seemed to exhaust itself, under the frequent use calomel and rhubarb "protected by opites."

"It is deserving of remark that throughout the whole course of the disorders just narrated, the most prominent feature of practical indication, was the great and obstinate torpor of the patient's bowels. Purgative medicines always afforded decided relief; and bad consequences always followed the neglect or inefficacy of them. Yet the evacuations were by no means so foul, or unnatural in their appearance, as I have commonly witnessed in intestinal derangements. Neither did the free use of calomel produce any ptyalism, or excessive discharge of bile, at any period of the disorder." p. 23.

The third article is a case of spasmodic affection of the muscles of the mouth and tongue chiefly, but showing a disposition to extend to other muscles so as not a little to resemble tetanus.

"She had an attack while I was present. Her tongue was drawn forcibly in a curved direction towards the left upper molares, the teeth were clenched, and the lower lip much distorted, from being drawn forcibly down, and to one side, by a strong spasm in the left depressor anguli oris, and depressor labii inferioris muscles. It continued some seconds, and gradually subsided. Her intellects remained clear during the paroxysm." The muscles of the face, neck, and chest, and the diaphragm, sympathised, and a "numbness was felt, running from the neck, down the left arm to the thumb and forefinger."—The disorder resisted blood-letting, cathartics, steel, and fœtid medicines. It was at length traced to the irritation caused by a number of carious teeth and fangs! These were extracted for the cure of the spasm, so that there were drawn, at different times, all the teeth of the left side of the upper jaw, except the dens sapientiæ, which, as the patient was fifty years of age, she had probably lost before.

Next follow two cases, by Dr. Chisholme. The first, a female aged 17, was affected with "a pain in the region of the liver, accompanied with irregular symptoms of hysterics," from which she was relieved by a course of mercury. In a few months the complaint returned with greater violence, and accompanied with mental derangement;—the same remedy was again successful. Exposure to cold re-produced all the symptoms;—compression of the carotid arteries was tried, and by it the convulsions were stopped, but on a repetition of it syncope and catalepsy ensued;—the mercurial plan effected the third and "ultimate" cure. The subject of the second case was a woman aged 50. She, also, was affected with mania, following other symptoms chiefly nervous, and although relieved for a time by "evacuants," was not cured till after a mercurial course.

Dr. Bostock, having an opportunity of analyzing two vertebræ, softened in consequence of mollities ossium, has established by experiment that the theory of the deficiency of phosphate of lime in that disease is correct.

In the next paper we find an example of the good effects of "a purgative pill," and "the solution of arsenic," in a case of chorea, which had resisted other means.

A very interesting case follows, of "symptoms resembling tic douleureux," related by Mr. Denmark of Haslar Hospital. A soldier was wounded by a musket ball, which "entered the triceps extensor cubiti, about 1 1-2 inch above the inner condyle of the os humeri, and, grazing the inside of that bone, passed obliquely downwards through the brachialis internus, and out anteriorly near the bend of the arm." The wound healed readily, and without any morbid symptom. Afterwards it became the seat of excessive pain, which was not relieved by the most powerful opiates. He kept the fore-arm constantly bent, and in the supine position. "A small tumor could be felt in the site of the wound on the anterior part of the arm, which he could not bear to be *touched* without evincing additional torture." It was a burning pain, beginning in the extremities of the thumb, and three fingers nearest it, and extending up the arm,—shewing that the radial nerve was the seat of the disorder. The patient preferred amputation to cutting out a piece of the nerve.

"On dissecting the arm, I traced the radial nerve through the wounded parts. It seemed blended with, and intimate-ly attached to them for the space of an inch. It had been wounded; and at the place of the injury was *thickened to twice its natural diameter*, and seemed as if contracted in its length. This contraction, I thought, partly accounted for the bent position of the arm, and the increased pain on attempting its extension; but on further examination, I was surprised to find on dividing the fibres of the posterior part of the wounded nerve, that there was a small portion of the ball firmly imbedded in it, which had been driven off by grazing the bone. This description of injury more fully accounts for the exquisite pain felt by the patient. The os humeri was discoloured where it was grazed by the ball, and the humeral artery was uninjured! The nerve was evidently *thickened*, both above and below the wound.'

We cannot but refer our readers to p. 128, of our former number, where they will find another case of enlargement of a nerve in consequence of a wound, which produced symptoms of tic douleureux. The limb was amputated, but as the enlargement extended beyond the line divided by the knife, the painful affection returned.

We would also refer them to a case related by Mr. C. Bell, (Operat. Surg. v. 2. p. 331.) of a sailor, who in falling "caught by the ham on a projecting bolt in the side of the ship." The bruise soon got entirely well; but some time after, the foot became the seat of pain, which daily increased. "This pain was of a peculiar kind, it was confined to the bottom of the foot and was like an intense burning, while there was not the slightest swelling or discolouration in the place." In the ham, however, Mr. B. felt a tumor "of a bony hardness," "which, when pressed, gave no particular pain, but rather a sense of prickling numbness down the leg." The patient's strength being exhausted by the violent pain, he was in a state too weak to be operated on, and died soon after he came under Mr. Bell's care. "On dissecting the limb I found a tumor under the fascia, and about three inches higher than the usual place of popliteal aneurism," with which the tibial nerve was incorporated; "it had much the appearance of a large ganglion on the tibial nerve; the fasciculi of the nerve could be traced but a little way into its substance, and in the interstices of the fasciculated bands a vascular fatty substance could be observed, which resembled marrow." This was, doubtless, a case of tic douleureux, the nerve being not only enlarged, but diseased in its structure.

We will not, on the ground of only three cases, assert that an enlarged or thickened nerve is the cause of this torturing disease; but we invite those who may have opportunity, to examine whether such a morbid condition does exist. Should this be ordinarily the case, much light will be thrown on the obstinate character of the disease; and we shall expect only temporary benefit from division of the nerve, or even from the removal of a part of it, unless the enlargement occupies a small definite portion, and our operations can be performed higher up than the *disposition* to enlarge may extend.

At page 53, we find another paper from the pen of Dr. Bostock, on "the nature and analysis of animal fluids." This is a brief account of the experiments of Dr. B. on this very interesting subject, which it is impossible to abridge. We shall, therefore, omit details and present our readers with such an outline as we have room for. He first divides animal fluids into two classes, albuminous and mucous, having severally a base of albumen, and another different animal matter which is uncoagulable, (and which has been called mucus,) each dissolved in water, and containing a greater or less proportion of salts. To these is added a third class consisting of particles suspended in an albuminous fluid; this he calls "particled."

'The substances which I originally included in the class of primary fluids, were albumen, jelly, and the uncoagulable matter of the serum, which I denominated mucus; but having been induced, in an early stage of my experiments, to deny the existence of jelly as a constituent of animal fluids, (an opinion which has since been amply confirmed by others,) the only two bodies which remain for consideration, are albumen and the uncoagulable matter.'

'The physical properties of albumen are well known, and are sufficiently distinct not to be confounded with any other substance. It is adhesive,[*] miscible with water in any proportion, and possessing the remarkable and characteristic property of being coagulable by heat. This peculiar process appears to be confined to a few animal substances, probably two, albumen and the fibrin of the blood; the former being coagulated by heat, the latter merely by being discharged from the vessels, and, as far as we have yet been able to discover, without the immediate co-operation of any external agent.[†] Albumen forms the chief part of the solid contents of the serum of the blood, of the white of the egg, and of a numerous class of animal fluids, which are discharged from what are called serous membranes, by a a process, probably more resembling the passage of a fluid through a porous substance, than by secretion.[‡]' p. 54, 55.

Analysis of albumen ovi, serum of the blood, and of a number of other fluids are given; we shall extract those of albumen ovi, and serum. The former consists of

Water - - - - - -	85
Albumen - - - - -	12
Uncoagulable matter,	2.7
Salts - - - - - -	.3
	100.0

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[*] "I restrict the term *adhesive* to the property of causing the cohesion of surfaces to which the substance is applied; *tenacious* or *viscid* seem more properly to designate the power of being drawn into threads, depending upon a firmer union between the particles of the body."

[†] "Coagulation has been confounded with other processes from which it ought to be discriminated; from *gelatinisation* or the property which a warm solution of jelly possesses of becoming concrete as it cools; from *precipitation*, or the effect which the oxymuriate of mercury and many other substances possess, of forming a compound with an animal substance which is insoluble in water; and from the effect of *evaporation*, by which the watery part of a solution is removed, and the animal matter left in a solid form."

[‡] "The word *secretion* literally implies merely separation, but in the language of modern physiology it is supposed, that not merely the pro-

Serum is composed of

Water - - - - - -	88
Albumen - - - - - -	10
Uncoagulagble matter	1
Salts - - - - - -	1
	100

The other fluids enumerated by Dr. Bostock, as albuminous, are, fluid from spina bifida, liquor pericardii, fluid from hydrocephalus, fluid from hydrocele, liquor amnii, fluid from ascites, fluid from knee-joint, fluid from inflamed stomach, fluid from a blister;—the analyses of these are given, and they vary from the two we have quoted, chiefly in containing less albumen. The knee-joint and stomach yield, in a healthy state, mucous secretions; the specimens above analyzed and found albuminous were the products of disease; a fact worthy of recollection, as it proves that secreting vessels may, in consequence of disease, (debility?) become mere outlets of transudation.

Should all this be confirmed by future experiments, and be received as physiological truth, a fine field will be opened for the ingenious to adapt the theories of Malpighi and Ruysch, the acini and pennicilli, to the new doctrines. If we go on in prosecuting these investigations, who can say that we shall not at last enter *à posteriori* into the very *penetralia* of secretion!

We proceed to the second division of animal fluids—

'The next class of fluids are those to which I propose to give the name of *mucous*. I have adopted this term, both as the one generally employed, and as also conveying a sufficiently distinct idea of the substances described. They may be defined viscid or tenacious fluids, capable of being drawn into threads, but not of being poured in the form of drops: con-

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portion, but the nature, of the ingredients of the secretion differ from that of the fluid from which they are produced. The water of hydrocephalus, although so unlike the serum of the blood, is produced by transudation, not by secretion."

taining a great quantity of water, but not readily miscible with any additional quantity. Saliva may be adduced as a specimen of them: and to the same class belong the nasal mucus, the mucus found in the stomach, that occasionally discharged from the bladder, and that from the intestinal canal. These fluids differ from the albuminous, in being principally composed of a substance which is not exactly similar to any thing in the blood; and on this account they are to be considered as the products of secretion, rather than of transudation. They also differ in another circumstance, which is of considerable importance in a patholocical point of view; that whereas the albuminous fluids seem to be all confined in close cavities, the mucous fluids, in their natural state, are poured out into passages that communicate with the external surface of the body.' p. 74.

Dr. B. details experiments made on four mucous fluids, saliva, mucus from the stomach, a substance voided from the bladder, and fluid from an ascites suspected to be encysted;—the proportions of the several substances are not given, but uncoagulable animal matter was the chief solid ingredient.

The difference between this uncoagulable substance and albumen is shewn by means of several chemical tests. To give an adequate account of these would be to quote the greater part of the paper; the following extract will serve to lead our chemical readers into the proper track of investigation.

'The effect of re-agents upon uncoagulable matter is quite different from that upon albumen; oxymuriate of mercury has no effect; nitrate of silver blackens, without precipitating it; muriate of tin precipitates it very gradually, while acetate of lead immediately unites with it, and, forming a white dense substance, leaves the fluid perfectly transparent and without any impregnation.' p. 69.

Of the third class of fluids, the particled, there is little said. Their "peculiar characteristic consists in their containing particles visible to the naked eye." Dr. B. examined some which were "discharged from tumors situated both in muscular and in glandular parts." We are uncertain whether some of these fluids were not purulent; although they are called "tumors," "*confined* tumor," &c. they are said to have been "discharged," without alluding to any particular operation. This language, though not perspicuous, might indeed apply to *tumors* whose contents were fluid, but Dr. B. considers these three classes as "all that it seems at present necessary to establish," and yet he makes no mention of purulent fluids; so that unless he meant that some of these "tumors" contained pus, he has omitted one of the most important of animal fluids. This omission is, perhaps, most probable; for the description of the contents of these tumors does not agree entirely with that of pus, especially the size of the particles, which in pus require a microscope. We quote the following to give our readers an idea of the properties of these fluids:

'One of these which I had an opportunity of examining with a good deal of minuteness, was procured from a confined tumor on the thigh; its basis consisted of an albuminous fluid, and the particles were composed of a substance very similar to spermaceti, both in its physical and chemical properties. Like this substance it exhibited a considerable lustre, which it communicated to the fluid, so that when it was gently agitated, it gave to it a waved or glossy appearance, not unlike satin.' These particles were separated and dried, and retained their lustre for some time, and, from several experiments, are concluded to be a peculiar substance of a nature 'intermediate between albumen and wax, and which may therefore be called albumino-cerous matter.'

We have next a paper of considerable length by Sir Gilbert Blane, on "the comparative prevalence, mortality, and treatment of different diseases." We must present this to our readers by extracts, rather than by an abridgement of the whole. He first proceeds to a brief recital of diseases formerly known in Great Britain, collecting it from various sources, and enumerating separately, "those which have arisen and have since disappeared in this country in the course of time; those which have arisen but have not disappeared; those which have prevailed with various degrees of frequency and fatality at different periods; and those that have been more prevalent in our times than in former ages."

'To the first description belong the leprosy and the sweating sickness. The leprosy became general all over Europe in the twelfth century, and was supposed to have been imported by the crusaders. It became extinct, and was again imported into England, but has not been known in Europe, since the beginning of the sixteenth century.

'The sweating sickness was supposed to have been imported by the army which invaded England under Henry VII. It prevailed from 1485, till 1551, and in some years during one month in autumn, with a fatality approaching to that of the plague.

'To the second description belong small-pox, measles, and perhaps all the other specific contaginos, and the venereal disease; and though the exact periods of the origin of each of these cannot be ascertained for want of historical records, there is every reason to believe that there was a time when none of them existed.

'To the third description belong the plague, the dysentery, intermittent fever, typhus fever, the small-pox, the venereal disease, the scurvy, and the rickets. It is doubtful whether the plague ought not to be referred also to the former list, for though it resembles the plague of the ancients in point of fatality, its characters are quite different from those described by Thucydides and other authors, so that it was perhaps generated in the middle ages.'

The first mention of plague in England is in the year 430, the last mention in 1679. Dysentery and intermittent fevers are stated to be rapidly decreasing. Typhus fever, "by which is understood that which takes its origin from accumulated filth and want of ventilation in jails, hospitals, ships, the habitations of the poor, and the close buildings of large cities," has become less frequent and malignant in consequence of "the measures taken for its prevention, founded on the knowledge of its remote cause," which is a discovery of our own times. Syphilis has been mitigated from more cleanly habits, and greater skill in the cure; small-pox from inoculation and vaccination. Scurvy which was prevalent in the seventeenth century, with the genuine characters of sea-scurvy, "is now nearly as rare at sea as on land," in consequence of better diet, cleanliness, and the general use of fresh vegetables on land, and lemon-juice in the navy. Rickets also is said to have decreased.

"To the last description, namely, those which are more prevalent in modern times than formerly, belong the scarlet fever, consumption, gout, dropsy, palsy, apoplexy, lunacy, and generally all those diseases of which the brain and nerves are the seat; and of which the increased prevalence in this country in our time, is owing to there being a much greater proportion of the population who live independent of bodily labor than in any former age: and perhaps, something may be ascribed to the general use of tea and coffee."

Scarlet fever, though known in all ages, has never been epidemic till within seventy years, which is in part ascribed by Sir G. Blane to the facilities which schools afford for its propagation. Luxury and other *improvements* have caused the increase in other diseases. But consumption is supposed to find more victims in the great number of weak and sickly children who are brought up only by means of good nursing, and who would have perished in infancy in savage life.

Sir Gilbert Blane considers the remote causes of "all predominant disorders" as threefold, "contagion, noxious exhalations of the soil, and depraved habits of life." These are all more or less subject to human control, so that cleanliness, ventilation, the cow-pox, draining of marshes, &c. have, already deprived the two former causes of half their force. The removal of depraved habits of life consists in moral regulations; and as palsy, gout, dropsy, &c. are more frequent in our own times, we cannot lay claim to habits as moral as those of our ancestors.

Several other circumstances influencing health are noticed, such as the supply of London with water, the use of soap and body linen, removal of filth, and variations in the seasons. The latter, however, do not much affect the health among the British in the present age, except very cold winters, of which only one occurred during twenty years observation. From a consideration of all circumstances, the author is led to a presumption, that "those fluctuations called by Sydenham constitutions, do not, as he conceived, depend on any mysterious and inscrutable changes in external nature, but on the compound effect of the state of the weather, and the concentration of human effluvia which was more incident to that age than the present." p. 110.

This paper next presents an account of St. Thomas' hospital, and tables of the diseases treated by the author both in hospital and private practice, with the number of deaths. It also contains some very cursory remarks on the cure of diseases in general. All this we shall pass over, in order to present our readers with a highly important extract from the supplement to the article.

'Dr. Watt, of Glasgow, the well-known author of a treatise on diabetes, and himself a great promoter of vaccination,—in the course of his researches into parish registers, found to his great surprise and mortification, that the number of deaths of subjects under ten years of age had not been diminished since the introduction of vaccination; though the mortality from small-pox had, for the last ten years, been reduced to a fourth part of what it had been in the preceding ten years. Anxious to discover the cause of a fact so unexpected, he entered upon a laborious examination of all the parish registers of that city, from which it appeared that since the extensive practice of vaccination, ten times more children had died of the measles than formerly, which fully accounted for the stationary state of mortality of those under ten years of age.'

'Vaccination has not been carried to near so great an extent in London as in Glasgow, but as the mortality of small-pox has, on the average of the last ten years, been diminished in the former to almost one half; we may expect some influence from it on the mortality of measles, if Dr. Watt's allegations are founded on nature.' 'It appears by the London bills that this mortality (for the last ten years) is more than double of either of the preceding series (of ten years). And I find, upon inspecting the same bills as far back as the year 1700, that, during the whole of the last century, the annual mortality from measles exceeded 400 only in seven instances; whereas they have exceeded that number eight times in the last ten years.'

These terrible facts have excited much attention in Great Britain, and we find in this supplement, and in some late periodical works, various causes assigned for this increased mortality of measles. Our author supposes that it may be owing to "local and temporary fluctuations." Another thinks that the epidemic which first attacks will find most victims among the feeble, and that, small-pox being vanquished, the field is left for the deadly operations of measles. According to another, the number of women employed in sedentary occupations in Glasgow, has occasioned "a greater number of dead-born children, and a more puny offspring in general," who encountering measles first, have swelled the list of its mortality. A fourth speculator, wild with theory, considers measles as the means employed by Providence, instead of small-pox, to effect the "termination of the existence of one third of his (rational) creatures, before they have attained the age of two years." We have sought in these transactions, and in our latest pamphlets, for some more *solid* consolation in this very appalling prospect, and find the three following, which we gladly present to our readers.—In a note sent to the press after Sir G. Blane's supplement, it is stated that Dr. Stanger, physician to the Foundling Hospital, ascertained that out of 131 patients in that hospital who had measles after vaccination, *two* only died; and that of 131 who had measles after small-pox, *eleven* died.—In the Edinburgh Medical and Surgical Journal for January 1814, Dr. Bevan of Monmouth, writes, "never in the whole medical history of our parish, have hooping-cough and measles been so prevalent as within the last ten months, and never was their progress marked by fewer instances of serious disease;" 150 are supposed to have gone through the measles, of which one died decidedly of measles, and one a fortnight after measles.—At the same page of that Journal (94) it is remarked, that in 1808, when measles were very fatal in Edinburgh, it was ascribed to vaccination, until it was found to be particularly fatal among a body of militia, "of whom *probably* few had been vaccinated, and the greatest part *must have had* the small-pox in its natural form." Were we to consult our feelings we should enlarge upon this subject, but it is to be decided only by farther experience; and until it is so decided, speculation on *such* a subject is absolutely criminal.

An analysis of the remainder of this volume will be given in our next.

VI.

An Inquiry into the Probability and Rationality of Mr. Hunter's Theory of Life; being the subject of the first two Anatomical Lectures delivered before the Royal College of Surgeons of London. By John Abernethy, F. R. S. &c. Professor of Anatomy and Surgery to the College. 8vo. *pp.* 95. *Longman and Co.* 1814.

From the Edinburgh Medical and Surgical Journal, July, 1814.

Medical and chirurgical science is indebted to Mr. Abernethy for so many solid and valuable additions, the result of his own investigation, the product of his own unquestioned talent, that his reputation is not likely to be advanced by any success which he may obtain, in advocating the hypothetical opinions of any other man, however, distinguished. Appropriate, therefore, as the discussion of this Hunterian doctrine might be, as introductory to a course of lectures connected with the Museum of John Hunter, and delivered under the same roof, it would have been well if the compliment had been deposited there, or had been left to be cherished in the remembrance of the auditors of these lectures. The easy and somewhat elegant style in which they are written, aided by the animation of delivery, must have been calculated to impress the minds of the listeners favorably both towards the author and the advocate of the doctrine; but we do not conceive that the logic, either of the one or of the other, will stand the test of a deliberate examination, or that the establishment of the hypothesis, if it were made out as satisfactorily as Mr. Abernethy maintains it to be, would be of any value to the physiologist or pathologist. Indeed the objection of being worthless is not confined to this, but is applicable to all speculations about the nature of primary causes: these are beyond the reach of our powers; and are therefore improper objects of our labor; we have nothing to do but with their results, which are alone subject to our cognizance. A theorist may, indeed, display some ingenuity in bringing together a number of imperfect analogies, and in magnifying the points of resemblance among them, and thence may fancy that he is approaching some general cause, from which they all spring; but let us examine these analogies in other points, which the partial advocate has kept out of our sight, and let us collect a multitude of other phenomena, which he has omitted to present to us, because no similarity, but all manner of diversity, was to be observed in them; and we shall be satisfied that these hypotheses are mere fictions of the fancy, as flimsy as the imagery of the poets.

That *electricity is life*, is, we apprehend, the hypothesis "the probability and rationality" of which Mr. Abernethy has undertaken to defend; and we shall attempt to follow him through some of his trains of reasoning. We were very much baffled in the outset, we must confess, by the extreme want of precision and perspicuity, which is found in the interpretation of some leading terms. First we are told, that by the word *theory*, is meant "a rational expectation of the cause or connexion of an apparently full or sufficient series of facts; by *hypothesis*, a rational conjecture concerning subjects in which the series of facts is obviously incomplete." p. 8. And in the next page we are requested to reflect, "that hypothesis and theory are the natural and inevitable result of thinking; so that if we refuse to allow of any theory, we must prohibit all thought." And we are farther informed, that, "since thinking is inevitable, our chief inquiry should be how we ought to think or theorize."—"Our theories, hypotheses, or opinions, for to me all these words seem to refer to one and the same act of the mind," &c. p. 12. So that, as Darwin said long ago, in apology for his own hypothetical fancies, we are to understand that "to think is to theorize;"* a vague and useless acceptation of terms, which is altogether at variance with the specific definition with which our author set out. Nor can we accord with him in his estimation either of the proper origin or of the utility of an hypothesis. He would have us invent our hypothesis first, and investigate the facts hereafter; and thinks "it is highly probable that it was his hypothesis respecting life which incited Mr. Hunter to inquiries by which he has been able to supply the deficient facts, so as to establish his conjectures, or convert his hypothesis into a theory." p. 13. Surely this is not the true proceeding of philosophy, to enter upon investigation with pre-conceived opinions, and to multiply observation with the view of confirming them. The distorted conception and representation of facts which a favorite hypothesis is apt to produce, and the falsehood and error which it thus contributes to propagate, might be amply illustrated by a reference to medical records. Nor does it appear to be either very complimentary to Mr. Hunter, or very correct, to suppose that he was only led to the long series of valuable observations, with which he enriched physiological and pathological science, by the stimulus of his pre-conceived hypothesis concerning life. This observation is, indeed, somewhat incompatible with another statement of Mr. Abernethy respecting him, when he says, "I know of no opinion of his that was lightly or loosely formed, or that was not logically or cautiously deduced from the facts before him." p. 21.

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* Preface to Zoonomia.

As a preliminary to the discussion of the hypothesis, Mr. Abernethy relates the opinions of several observers relative to the structure of the muscular fibres, respecting which he considers our knowledge as very limited, in consequence of our limited powers of perception. He then proceeds to describe the principal phenomena connected with irritability or muscular motion; namely, the superior strength and tenacity of the living over the dead muscle; the pain and weariness which result from long continued contraction; and the necessity for alternate remission and action, with the exceptions to this principle in some sphincter muscles, and in violent cramps and tonic tetanus. "The rigid contraction of the muscles after death is the effect of irritability: it is its last act. A considerable force is required to overcome this contraction, or to bend the rigid limbs of the dead body, when it has recently taken place. The force required to effect this, gradually diminishes till the muscles become quite pliant; and then, and not till then, does putrefaction ensue." p. 30. In other cases, however, as when death is produced by lightning, or large charges of electricity, or by certain kinds of injuries and diseases, Mr. Hunter observed that this contraction, and even the coagulation of the blood, is prevented, and putrefaction rapidly commences: whence that physiologist drew the inference, that "the principle of life may in some instances be suddenly removed, or have its power abolished, whilst in general it is lost by degrees." Mr. Abernethy then notices the variety of contractility that occurs in some animals, and in some muscle in other animals, the motions of which are very slow, but powerful and permanent. "The American sloth supports its weight for a very long time by fixing its claws into the branches of trees: an act which would speedily weary muscles of an ordinary character. The muscles of the legs of birds that roost, seem to have a similar power of contraction." The peculiar distribution of the arteries in the limbs of these tardigrade animals, as demonstrated by Mr. Carlisle, and the similar arrangement of vessels of the legs of fowls, shewn by Dr. Macartney, may be subservient, Mr Abernethy thinks, without being essential, to these modes of action.

Proceeding to the consideration of the hypothesis by which these phenomena have been attempted to be explained, Mr. Abernethy rejects, first, the doctrine, that contraction is "the effect of some chemical change occurring in the part;" and, secondly, the opinion, that "the contraction of irritability is a property of the muscular fibres." His arguments in confutation of the latter opinion are not very satisfactory: they are three. First, he says, properties are generally considered as permanent qualities, continually operating, which is not the case with the contraction of irritability: secondly, the faculty is connected with different arrangements and qualities of matter, and not with one peculiar arrangement, as would be expected: and thirdly, as he believes the muscular fibres to be not continued from one end of the muscle to the other, so he thinks any breach of continuity would completely frustrate the contraction of the whole muscle, if irritability were a property belonging to the fibres; —an inference which we do not comprehend. The two preceding arguments are founded upon assumptions, as to the nature and connexion of certain properties with certain conditions of matter, and are merely conjectural.

Having rejected the two hypotheses just mentioned, the lecturer proceeds "to inquire into Mr. Hunter's opinion, that irritability is the effect of some subtile, mobile, invisible substance, superadded to the evident structure of muscles, or other forms of vegetable and animal matter, as magnetism is to iron, and as electricity is to various substances with which it may be connected." The principal, or rather the only argument adduced in support of this doctrine, is, that all matter possesses a *vis inertiæ*, or an indisposition to move unless impelled to motion, and a disposition to continue in motion unless retarded. Now the matter of animals and vegetables is common in inert matter, *therefore*, "the necessity of supposing the superaddition of some subtile and mobile substance is apparent." p. 41.

In order to shew, then, that this superadded substance is the matter of electricity, which pervades all nature,

—agitat molem, et magnó se corpore miscet,

Mr. Abernethy reasons thus—

"Taking it for granted that the opinions generally entertained concerning the cause of electrical motions are true, analogy would induce us to suppose, that similar motions might be produced, by similar causes, in matter organized as it is found to be in the vegetable and animal systems.

"The phenomena of electricity and of life correspond. Electricity may be attached to, or inhere in, a wire; it may be suddenly dissipated, or have its powers annulled, or it may be removed by degrees or in portions, and the wire may remain less and less strongly electrified, in proportion as it is abstracted. So life inheres in vegetables and animals; it may sometimes be suddenly dissipated, or have its powers abolished, though in general it is lost by degrees, without any apparent change taking place in the structure; and in either case putrefaction begins when life terminates.

"The motions of electricity are characterized by their celerity and force; so are the motions of irritability. The motions of electricity are vibratory; so likewise are those of irritability. When by long continued exertion the power of muscles is fatigued, or when it is feeble, their vibratory or tremulous motions are manifest to common observation, but the same kind of motion may be perceived at all times by attention, as has been shewn by Dr. Wollaston in the Croonian Lecture for the year 1810. It is then, I think, manifest, *that Mr. Hunter's conjectures are the most probable of any that have been offered as to the cause of irritability.*" p. 41-3.

This is in reality the sum of the inferences, to which such a string of loose and imperfect analogies can possibly lead, viz. that Mr. Hunter's conjectures possess a sort of probability, at least equal to the *suppositions* of other people! But surely if we reflect on the multitude of phenomena in the two organized kingdoms of nature, which bear no sort of resemblance to the operations of electricity, the inference in favor of the identity of the cause of these phenomena must be altogether inadmissible. But Mr. Abernethy contends that the experiments of Sir Humphrey Davy have solved the great mystery of chemical attraction, by shewing its dependence upon the electric properties of all matter; by demonstrating that electricity controls the ordinary operations of nature, so as to make potash pass through a strong acid without forming any combination; and that it causes the whirlwind, and the water-spout, splits the oak, and levels the firm tower, and makes the earth tremble.

"When, therefore, we perceive in the universe at large," he adds, "a cause of rapid and powerful motions of masses of inert matter, may we not naturally conclude, that the inert molecules of vegetable and animal matter, may be made to move in a *similar manner* by a similar cause?" and again, "If then it be electricity that produces all the chemical changes we so constantly observe in surrounding inanimate objects, analogy induces us to believe that *it is electricity which performs all the chemical operations in living bodies*; that the *universal chemist* resides in them, and exercises in some degree peculiar powers, because it possesses a peculiar apparatus." p. 50.

Now, though it is an admitted axiom in philosophy, that similar phenomena, occurring under similar circumstances, imply a similarity of cause; yet surely it is a great misapplication of terms, when either the phenomena or circumstances accompanying a thunder-storm, a water-spout, a volcanic explosion, or even an experiment on the Voltaic battery, are said to be *similar* to the functions of either animal or vegetable life. But either our faculties are very obtuse, or there is a considerable obscurity in the language of our lecturer; for, after the perusal of these passages, we were fully impressed with the opinion, which we stated in the outset, that Mr. Abernethy maintained electricity to be life; nevertheless, immediately after the sentences just quoted, we find him asserting, that, "it is not meant to be affirmed that electricity is life." (p. 51.) What then is meant? Possibly the reader may discover it from the passage which follows.

"I only mean to prove," says Mr. Abernethy, "that Mr. Hunter's theory is verifiable, by shewing that a subtile substance of a quickly and powerfully mobile nature, seems to pervade every thing, and appears to be the life of the world; and therefore it is probable that a similar substance pervades organized bodies, and produces similar effects in them." (Ibid.)

Yet the lecture concludes by the statement of the author's opinion, that Sir Humphrey Davy has realized the hypothetical speculations of the Pythagoreans, by demonstrating the existence of the *anima mundi*, the ψυχή, of these philosophers; and we had just been told that electricity was the "universal chemist" demonstrated by that distinguished philosopher. Perhaps, therefore, we are bound to infer, that it is not easy, even for men of genius, to think clearly, when they enter the labyrinth of speculation upon subjects that are actually without the bourne of human research.

The second lecture commences with a neat sketch of the structure and functions of the nerves, and of the opinions of physiologists respecting the uses of ganglia. Mr. Abernethy traces the gradations in the complication of the nervous system, from the lower order of animals up to man, from the first appearance of a visceral nerve in the lowest creatures, that are possessed of organs for the preparation of nutriment, to the appearance of a nervous cord, more or less beset with ganglia, and lastly to that of a kind of ganglion or brain at the extremity of this cord, which gradually becomes larger and more complex, as the series ascends to man: and he remarks on the extensive connexion that is established among the vital organs, through the medium of the visceral nerve, which is thence denominated in the human subject, the great sympathetic nerve. And thus from the brain, medulla spinalis, and visceral nerve, all the parts of the body are amply supplied with nerves.

Mr. Abernethy then proceeds to inquire how far Mr. Hunter's theory of life may be adequate to explain the phenomena of the nervous functions. He first shows, by several facts and arguments, that the brain is the actual seat of all sensation; and the source of all volition; and thence, he maintains, "it necessarily follows that *motions* must be transmitted to and fro along the nervous cords, whenever they (sensation and volition) take place." The want of elasticity and tension, and the pulpy structure of the origins and terminations of the nerves, he observes, render the old suppositions, that these cords were capable of mechanical vibrations, inadmissible. It was afterwards conjectured, that the nerves were tubular, and that the communications were made between the sensorium and their extremities by the motions of a subtile fluid. This was the opinion of Haller, and Mr. Abernethy considers it as a sensible opinion for the time. From this, indeed, Mr. Hunter's supposition does not essentially differ; for he maintained the inherence of a subtile and mobile substance in the nerves, without conceiving them to be hollow tubes. This supposition of Mr. Hunter's is made more specific by Mr. Abernethy, who identifies it with electricity, or something so like electricity, that we cannot distinguish the difference. And this "theory of life," he thinks, "is a verifiable theory, and affords the most rational explanation of the phenomena of irritability, and of those nervous functions that have been considered." p. 87.

We cannot conceal our surprise, that this should be the serious opinion of any philosopher. Surely the various hypotheses alluded to are nothing but expressions of the fact, that between the sentient extremities of the nerves and the common sensorium there is a rapid and reciprocal communication, by means of which, sensation and voluntary motion, and irritation and involuntary motion are produced; but they add nothing to our knowledge of the essential nature of that communication; because we are acquainted with nothing exactly analogous to it in any form of unorganized matter. Whether we assert that the communication consists of intermediate vibrations, of a subtile fluid, of an electrical substance, or of an impulse propagated along the nerves, we therefore express only the *connexion* or *sequence* of the internal sensation and the external impression;—a fact beyond which we shall, in all probability, never be able to proceed. The knowledge of this fact is all that is requisite to enable us to arrange the observations, which we make on the functions of vitality, *i. e.* in other words, to explain the phenomena of health and disease, and all the important sympathies, which Mr. Hunter led the way in pointing out, and which are nothing but inexplicable connexions between different organs, which the philosopher may record and arrange, and then he will have attained the summit of human knowledge. With this degree of knowledge we must be content, if not satisfied; for "fatiguing" as doubt and uncertainty may be to the human mind, the shadow can never supply the place of the substance; and it is surely but a shadow which we reach, when we overstep the limits just mentioned. These notions of philosophizing, however, our author professes not to understand; and he speaks in a tone of censure of those, to whom (from the adoption of similar views) no hypothesis is satisfactory, and who propose none themselves for the adoption of others. Such a proposal would, in fact, be incompatible with such opinions, and ought not to be imputed to any proud pretensions to "a philosophical turn of mind which exempts them from vulgar prejudices."

"I mention these things," Mr. Abernethy observes, "because I am aware that there are some who say sympathy is a term without any direct meaning, and that all which Mr. Hunter said on the subject of life explains nothing. What Mr. Hunter meant, I believe I understand; what persons of different sentiments, whom I acknowledge to possess great information and ability, mean, when they talk in this manner, I am not so well able to discover. They seem to deny that life can be any thing which may be seen or felt. They seem to wish us to believe that they have that philosophical turn of mind which exempts them from vulgar prejudices, and no theory appears to them satisfactory, neither do they propose any for our adoption." p. 91.

We shall not infer that Mr. Abernethy intends to intimate, that a disposition to adopt these hypotheses has its foundation in vulgar prejudices, as that may not be deemed the legitimate converse of his proposition. But we do not perceive the applicability of the following aphorism to the subject in question, although its correctness may be admitted; that "in the uncertainty of opinions, wisdom would counsel us to adopt those which have a tendency to produce beneficial actions." p. 93. For it is not very obvious, 'that the conduct of mankind can be much influenced by the speculations of physiologists about a vital principle, or that the existence or non-existence of such a superadded substance, as distinct from the corporeal and intellectual part, can be the foundation of any practical consequences.

Notwithstanding the high names, therefore, by which this mode of theorizing is sanctioned, and notwithstanding our unfeigned respect for the talents of the present advocate in its favor, we continue to believe that it is at variance with the right rules of philosophy, that it contributes to add nothing to the actual stock of knowledge, and that the collection of analogies and distant resemblances in objects essentially different in a much greater number of circumstances, is an exercise rather calculated to form the poet, than the interpreter of nature.

VII.

Tracts on Delirium Tremens, on Peritonitis, and on some other internal Inflammatory Affections, and on the Gout. By THOMAS SUTTON, *M. D. of the Royal College of Physicians; late Physician to the Forces, and consulting Physician to the Kent Dispensary.* 8*vo. pp.* 272. *London.* 1813.

From the Edinburgh Medical and Surgical Journal, July, 1813.

We have been pleased and instructed in the perusal of these tracts; and must applaud the candid and unostentatious manner in which so much information is conveyed. Had we been consulted, however, we should have recommended a different mode of communicating observations like the present to the public. We disapprove of inflating a volume with individual cases, unless when each case contains something important, which could not be so well detailed in a more general way, or when a number of individual cases, with all particulars, are required to establish new facts, which might otherwise be disputed. We have no hesitation in saying, that the substance of this volume, excellent as it is, might have been as well, indeed far better, condensed into the space of half a hundred pages.

The first of these Tracts consists of cases and observations on delirium tremens; a name employed by Dr. Sutton to designate a disease, concerning which we have already occupied our pages, in giving the valuable communications of Dr. Pearson and Dr. Armstrong. It appears that Dr. William Saunders has, for many years, lectured on this affection at Guy's, discriminating it from phrenitis. We agree with Dr. Sutton, that the investigation of the delirium tremens has been unaccountably neglected; but, from what we have ourselves published on the subject, it can scarcely be said, that "it has not yet taken a station in medical writings."

The attack of this complaint is more or less sudden, in different instances. Sometimes for a few days at its commencement the patient is merely incapable of his ordinary duties and exertions; a constant restlessness, debility, and inappetency, and occasional vomiting take place, with dulness and dejection of spirits, and headach; in a short time confusion of intellect; a staring wildness of the countenance; tremor of the hands, and in some degree of the whole body, succeed. The pulse is not so frequent as in the delirium of fever, nor so full and strong as in phrenitis; it seems to participate in the universal hurry and tremor. The tongue is usually moist; and there is little thirst or heat of skin. The bowels are generally, though not invariably, open.

Occasionally the patient recovers without farther aggravation of symptoms: but too frequently the disorder becomes more violent; the countenace becomes more anxious and wild; the tremors assume the aggravated character of subsultus tendinum; and the confusion of ideas is displayed in total forgetfulness, in complete alienation of mind, and unrestrained delirium. The pulse is at length very frequent, but cannot be distinctly felt, on account of the general tremor. Still the tongue remains moist, there is little thirst, and the skin is totally cool, sometimes with clammy perspiration; in the violence of the symptoms there are sometimes involuntary evacuations.

The duration of these symptoms are various; they rarely continue, in the degree of violence described, for more than a few days; but in a milder form, they sometimes endure for some weeks.

This affection appears to arise only in persons addicted to spirits, and in consequence of excess or habitual indulgence in them. Dr. Sutton relates the case of a lady who suffered from the delirium tremens, from habitually taking the tincture of lavender, in large quantity. The disease frequently occurred to Dr. Sutton's observation, on the coast of East Kent, from the facility with which smuggled spirits are there procured. p. 56.

There exists much obscurity respecting the nature of this disease. We have no accurate dissections of the bodies of those persons who have died from it. Fortunately, under Dr. Sutton's care, few instances affording an opportunity for dissection have occurred. It is regarded by our author, though we believe without sufficient evidence, as an idiopathic disease of the encephalon. It is more insidious than inflammation of the brain, and is not attended with the same violence of fever, or the same intolerance of light or sound; and it appears, in some measure, to be characterized and distinguished from phrenitis, by the peculiar tremor already noticed. The state of the pulse, too, and of the tongue and skin, are sufficiently peculiar to afford the means of discriminating it from inflammation of the brain. We must rely also on the same symptoms in distinguishing between delirium tremens and idiopathic fever with delirium.

It does not appear so easy to decide between the delirium tremens and mania. Dr. Sutton appears to rely too confidently on the distinction arising from the nature of the mental alienation, which, in the former disease relates, as he conceives, solely to the patient's private affairs. But this is by no means the case. We have, at the very moment of writing these lines, a patient whom it is impossible to convince that he is in his own room at home; and that his desks and chests are secure from depredation. Besides, mental alienation is so infinitely varied, that it would be impossible to confide in any variety of it, as a means of diagnosis; and we may add, that, of all kinds of mania, none is more frequent than that which engrosses the mind by the private affairs of the individual.

We now proceed to speak of the cure of delirium tremens. Dr. Sutton gives ample and satisfactory testimony to the efficacy of opium, in soothing the agitation of body and mind, and in inducing refreshing and salutary repose. It is given in considerable doses, and repeated until the effect desired be induced. When smaller doses have proved ineffectual, two grains of the extract, or forty drops of the tincture of opium, taken after the interval of two hours, have, in the third or fourth instance, frequently produced the desired tranquillity and sleep. Dr. Sutton usually repeated this medicine every night, for a short period, after the patient had in a considerable degree recovered.

Dr. Sutton disapproves entirely of the depleting plan of treating this affection, having "witnessed the cases of this disease to be always the most rapidly fatal in robust and plethoric persons, even where blood-letting was most used, without the aid of opium." Dr. Sutton does not deny that blood-letting may be necessary in some cases; but when the loss of blood may have been deemed requisite, he would immediately afterwards resort to opium, as the only remedy deserving confidence.

Of blisters, Dr. Sutton speaks with decided disapprobation. He considers them not merely as useless, but as absolutely detrimental, exciting serious irritation, and opposing the soothing virtues of the opium.

Purgatives may be required, not as remedies for the disease, but to remove costiveness, which is occasionally obstinate from the employment of the opiate remedies.

Dr. Sutton does not give us any account of the effects of wine and cordials in this complaint, He seems to have relied, and with good reason, on the efficacy of his favorite remedy, opium. In conclusion, he states, that he has witnessed 22 cases of the delirium tremens, within the last three years; that four only died, and of these four, three were in such a condition on his first visit, as to preclude almost all hope of recovery.

Observations on inflammation of the peritonæum, and especially on the chronic kind of this affection, constitute the second part of the volume. This form of the complaint has been treated of by Willan and Pemberton. It is an insidious, obscure, but a very serious and dangerous disease. Dr. Sutton observes, that from this circumstance, and from the general uneasiness, languor, and depression of spirits attendant on it, it is often mistaken for indigestion, hypochondriasis, or what is termed a nervous complaint; it is therefore treated carelessly, or neglected, until the disease is, on some occasion, unexpectedly aggravated, and assumes the more acute character. Sometimes its progress continues without any remarkable exacerbation, slowly and insidiously, to a degree of imminent danger, before any particular alarm has been excited. Uneasiness or obscure pain is felt in some part of the abdomen, sometimes little increased on pressure. The appetite is impaired, and food taken increases the distress of the patient; the pulse is not materially affected; the bowels are not obstinately costive.

We do not notice the symptoms of the aggravated form of peritonitis, as they are too well known to our readers to need repetition here. The inflammation is apt to extend to the other parts and organs of the abdomen, to give rise to effusion of lymph or serous fluid, and the formation of adhesions and dropsies. This complaint has also a particular tendency to become suddenly increased, and when apparently removed to make an unexpected return. In many of the patients whose cases are related by Dr. Sutton, the inflammation returned several times; from this circumstance it is inferred, that more and longer attention to regimen and diet is necessary than is usually enjoined after acute diseases. Dr. Sutton notices, in particular, the following, as necessary injunctions on the convalescent: First, to avoid too much exercise, and especially those kinds which require the action of the abdominal muscles, and which agitate and disturb the contents of the abdominal cavity. Secondly, to avoid any tendency to costiveness of the bowels; and, thirdly, to abstain from excess in diet, and altogether from the stimulus of wine.

Dr. Sutton recommends the early employment of the lancet in peritonitis. Of blisters and fomentations he entertains a dubious, or rather a low opinion. But he in particular advocates the application of a cold lotion to the abdomen; he presents us with many instances in which this remedy appears to have been of undoubted utility. We are inclined, therefore, to hope for some good from this remedy, and are happy to refer our readers to a previous part of our present number for further observations on the subject. It appears from Dr. Sutton's observations, to be peculiarly adapted to the chronic state of peritonitis, where the symptoms are not such as to justify blood-letting. Dr. Sutton also recommends the exhibition of opium in inflammation of the peritoneum, as efficacious in subduing a tendency to vomiting, and in mitigating the severity of pain and suffering of the patient. We begin, however, to suspect Dr. Sutton of too strong an attachment to this remedy; we have it again recommended in diseases of thoracic viscera, and again in gout. p. 191, 216.

We have, at the close of this tract, some observations on the application of the cold lotion in inflammation within the chest,—of the lungs, and perhaps of the heart: it is difficult to ascertain with what real and essential benefit; but, apparently, with relief to the pain, and satisfaction to the feelings of the patient, and certainly without inducing any of those bad effects which we should have been inclined to have feared from it.

In this part of Dr. Sutton's work, we have two letters from A. Stewart, M. D. and minister of Bolton, on the subject of treating complaints of the chest. From these we make the following extracts, as they contain all the peculiarities of that gentleman's mode of treating these affections, now so much in vogue among the higher classes in this part of the island.

"In treating breast complaints, it has long been with me a maxim, to overlook comparatively the idea of inflammation except in the very first stage; and to aim *gradually*, *prudently*, and *steadily*, at regaining a *cool*, *braced*, and *properly seasoned* state of the constitution, as my first object.

"Many reasons, which I need not now specify, incline me to suppose, that what, in the progress of breast complaints, is called an *inflammatory state* of the lungs, is not really so (I mean not a *real-active* inflammation); and, at any rate, I know, from a good deal of experience, that it yields more readily to a different mode of treatment, than that commonly in use."

"I propose a trial of the following things:—Diet that is nourishing, without being stimulating, as (besides milk and vegetables) an egg, a bit of fresh animal food, beef-tea, broths, and particularly veal broth, jellies and arrow-root; and for drink, water, either pure, with sulphuric acid, or with a *tinge* of port wine, or occasionally spruce beer, ginger beer, or common small beer. As much exercise as possible, without fatigue, on a spring-deal, within doors, and in a carriage in the open air. A regular system of spunging the body with water and vinegar (at first tepid, and afterwards cooled down to the natural temperature) at least once a-day, and following it always with a great deal of rubbing; and a blister issue on the breast.

"As to medicine, I recommend a cupful of cold infusion of bark, with some drops of sulphuric acid twice a-day; and, I think, generally some preparation of steel with a bitter.

"I am also partial to the use of the Plummer's pill, in such cases as Lady ——'s, but it was not mentioned in my letters; and, on coming to London, I found it inadmissible, from the state of her bowels." p. 180, 182.

Dr. Sutton concludes, that "there are cases of consumption which will stand a better chance of recovery on Dr. Stewart's plan, than the common routine of practice;" although he "finds no ground to hope that it will ever be ranked in any other class than among the most fatal diseases."

Dr. Sutton suggests, that, as the momentary application of cold water, in the form of affusion or ablution, is so effectual a febrifuge, that the more continued application of the lotion would be likely to afford beneficial results in continued fevers; a suggestion which undoubtedly deserves a fair and ample trial.

The last part of this volume is devoted to the consideration of the cure of gout, which may be called the disease, as well as the opprobrium medicorum. We were not in the least surprised that Dr. Sutton, as well as Sydenham, Cullen, Brown, Gregory, and a thousand other eminent physicians, has been afflicted with this malady.

Since the veil of hypothesis has been removed, we have not heard so much of the danger as of the difficulty of removing the arthritic paroxysms. Without pretending to say that all that was formerly thought or written on this point was wrong, and that there is absolutely no danger of metastasis in gout, we believe that it is now the general opinion, that, in persons of unbroken constitution, the cure of the gouty paroxysm may be safely attempted. Dr. Sutton thinks that the gout has too long been regarded as a disease of the system. His opinion is, that its principal and exciting cause resides in the alimentary canal.

But it is of more importance to our readers to learn the facts, than the opinions which Dr. Sutton's work is intended to support. The most material of them is, that purgatives, opium, and cold topical applications, are safe and efficacious remedies on the first attacks of the gout; for we omit to notice the excellent, but well-known rules which are here given respecting the regimen of diet and exercise. One part of regimen, indeed, is here, with much propriety, particularly insisted on, namely, constant attention to the state of the bowels. It is on this principle that laxative mineral waters are effectual in preventing the paroxysm. And this is especially necessary after the use of purgatives, which generally leave a tendency to costiveness. The *eau medicinale* has, in particular, a tendency to contract the bowels; and, therefore, although it may remove the paroxysm of gout, when present, it renders its return more frequent.

Dr. Sutton proposes to imitate the effects of the eau medicinale, by the combination of a grain or two of elaterium, with forty or fifty drops of tincture of opium; and this medicine has been administered with success. The frequent use of the eau medicinale has afforded the best means of judging of the effect of purgatives. Dr. Sutton seems to have derived much advantage from ordinary purgatives, and from the use of opium, and local application of cold in his own case. But we do not find any very extended trial of these remedies in the volume before us. We rather regard the subject as brought forward for discussion, than as having received a full and fair investigation.

In conclusion, we have only to repeat our almost unqualified approbation of these valuable tracts. We think we have given our readers the most material part of the volume; but still must do the author the justice to say, that those who have recourse to the original work itself, will derive additional gratification and instruction.

VI.

A view of the Mercurial Practice in Febrile Diseases, by JOHN WARREN, *M. D. President of the Massachusetts Medical Society, and Professor of Anatomy and Surgery in the University of Cambridge. Boston, Wait & Co.* 1813.

American physicians have a good right to offer opinions on mercurial remedies, for in no other country have they been so extensively used or so fully tested. Some may call mercury our hobby, and, so far as this is meant to imply that it is a favorite remedy, we cannot deny it; but any reproach that may be attached to such a term we must entirely disclaim. We do not rest our faith on the encomiums which have been lavishly bestowed on this remedy, but on the testimony of the many skilful practitioners who unite in sanctioning its extensive use. We suspect that it has been undervalued chiefly by those who through prejudice have refused it a fair trial, or who wanted the discernment necessary for its successful application.

There is a sort of knowledge in medicine which cannot be described, and of course is incommunicable. An intelligent physician forms in his own mind a sort of theory of the operation of every medicine. This theory when redu-

and to terms is seldom found correct, or rather, there are so many invented by different prescribers, that all cannot be true. It serves however as a chain to unite one's ideas; and, when founded on actual observation, is so blended with fact and checked by practical caution, that its owner is in no danger of committing an error. Such discernment is almost intuitive, and is far from being an universal gift; and on this principle we may account for the great success of certain remedies in the hands of some physicians and their total failure when managed by others. The former discern the exact stadium of the disease at which their remedy becomes proper; the latter prescribe more at random. These are like rustics, who fail either from abruptness or delay; while the former, like attentive courtiers, watch the golden opportunity, and from it elicit success.

If there are few who are gifted with this faculty almost intuitive, much fewer are they who can communicate their knowledge. We are willing to believe that Darwin, and Cullen, and Boerhave, &c. have so connected their doctrines with their practice, that in their minds the one has constantly illustrated the other. While torpor, or spasm, or viscidity, remain only mental terms, they are the signs of whatever ideas their owners may choose to attach to them; but when written, they are no better than so many words in plain English, and convey express meanings. In the former case the theory is first contrived and the term arbitrarily attached to it; in the latter, the theory is borrowed (at least in part) from the ordinary meaning of the term.

We are also willing to believe that authors who have attempted to theorise respecting the modus operandi of mercury, have themselves understood their several doctrines. Yet it must be acknowledged, that when they have reduced their ideas to words, they are not always very intelligible. Thus, our author enumerates three modes in which the effects of mercurial medicines can be explained.

'Their mechanical operation on the fluids.

'Their specific action on the noxious matters themselves in the animal body, separate from the consideration of the diseased actions in the body.

'Their action as a stimulus on the system.' p. 12.

Now, to say nothing of the two former, as they are out of fashion, and therefore not likely to attract many friends, let us examine how much wiser we are for regarding mercury as a stimulant. We cannot deny that an emetic is a stimulant, that a cathartic is a stimulant, that a tonic to the stomach or liver is a stimulant, and that a medicine promoting secretion and absorption is a stimulant; and we will even admit, for argument's sake, that a medicine which produces a new disease is a stimulant. All this may be very correct logic, but it is very bad therapeutics. Closet students may attribute all these effects to the operation of a stimulus upon the excitability; but a practitioner at the bed-side, must give up these dogmas of the cloister, and prescribe his emetic not because it is a stimulus, or he might as well order brandy or ammonia, but because it is a peculiar stimulus, that is, because it is an emetic; he must advise a course of mercury, not because it is stimulus and will introduce a new disease, for many poisonous drugs will do the same, but because it is a peculiar stimulus, that is, because it is mercury.

The stimulant operation of mercury has been ascribed to its imparting oxygen to the blood. This opinion originated with Drs. Beddoes and Girtanner, and seemed to derive support from several analogous effects of oxygen; thus an oxygenated ointment was prepared "which was superior in effect to the blue ointment," and hyper-oxy-muriate of potass was found to cure venereal sores. It is a sufficient refutation of the inference drawn from these facts, occasionally observed, that we hear no more of these remedies. Nitric acid has also cured some cases of syphilis, and what effect can this have in common with mercury, but the imparting of oxygen to the system! This also has passed away. Yet for this theory is Dr. Warren an advocate. We doubt not that his views are clear enough to his own mind, but we do not think that they will bear a very severe scrutiny.

'In whichsoever way, whether by the skin or by the mouth, mercury is received into the system, the preparation probably undergoes a gradual decomposition, by a sort of digestive action of the vessels, the metal giving, if I may use the expression, a kind of fixation to the oxygen, by which it is conveyed and applied to the extremities of the secreting or exhalent vessels.' p. 22. Now, if this be true, it must be proved that oxy-muriate and sub-muriate of mercury may be decomposed in the stomach and bowels, and the oxides left free for absorption. Next, this "digestive action of the vessels" must be such as can deoxydate not only the black oxide, from which the quicksilver is easily recovered by chemical means, but it must have power over the yellow oxide which is a more obstinate substance; the vessels must also digest the red precipitate which has occasionally been administered, and has produced salivation and a cure. Such a difficulty, we are aware, will be easily set aside, by saying that the vessels may be to "digest" all mercurial oxides, unless the contrary be proved. This art of shaking off the *onus probandi* is not the least important in theoretical controversy.

Since the introduction of pneumatic chemistry, many substances have been discovered which part with oxygen far more readily than the oxides of mercury, and these, if duly persevered in, ought to supercede the use of that mineral, if oxygenizing the blood was the only requisite. Gold, if used in the state of a salt or of an oxide, should give sufficient fixation to oxygen to convey and apply it to the ends of the vessels, but this has lost its reputation. So that after all our reasonings, we are forced to accede that the presence of mercury is essential to produce the several effects which are ascribed to oxygen. Dr. W. admits that "the emetic and cathartic operation of these medicines depends on their action, as compound bodies, on the stomach and intestines." And why should not the compound of oxygen and mercury produce some effect on other vessels than those of the stomach and intestines? We see no reason why they should not; on the contrary, we are disposed to consider mercury, whether in the viscera or the vessels, as producing effects peculiar to itself. By naming these effects from the medicine producing them, we avoid the vague term of a stimulus, and learn to connect with the name of the substance, a series of animal operations, which, with great regularity, follow its exhibition. This is the proper method of generalising. It was the method followed by Newton himself; for gravity is but a name for a train of effects, and expresses rather a law, to which all matter is obedient, than the cause of that law, or of those effects. So, by using the term mercurial action, we give a name to certain consequences, which is expressive of their visible remote cause, without presuming to understand the mode of their production, which if not above our faculties, is at least beyond what they have yet attained.

We repeat it.—The real causes of the phenomena of nature are not open to our faculties. True philosopby considers the general law as the cause of all the phenomena which flow from it; and the most general law as the fiat of the deity. We may advance many degrees before we arrive at the direct fiat, but by degrees we must advance. We venture to affirm that mere excogitation has never discovered a single law of nature. They whose minds were best disciplined in the school of observation, have erred like madmen when they allowed their imagination to escape from this discipline. Sir Isaac Newton's course was glorious while restrained by observation and calculation,—when he shook off these fetters, he strayed to the deserts of æther. The same will apply to medicine. Let us be content to believe that our science is in its infancy. It is no disgrace; philosophy was in infancy from the period of its birth till the time of Lord Bacon. He taught men to build with solid materials, even although the work should go on slowly; yet what a stupendous fabric has been errected, and in how short a time! So will it be with medicine. When physicians shall deny themselves the luxury of hypothesis, their substance shall no more be wasted. Each slender contribution of experience shall be laid by like the miser's farthing; and if we enjoy not the fortune, our heirs assuredly will. If our minds yield to these truths we shall be content to seem to know but little. We feel ashamed to say that mercury produces mercurial action; yet if we sift the truth out of the mass of hypothetical chaff, we shall find that this is our whole harvest. It is not too late to retrieve our fault. If we candidly confess that this is the sum of our actual knowledge with respect to the action of mercury, the sense of shame may perhaps stimulate us to some farther discovery of the truth; and this will be more readily effected when we are recovered from the paths of error. But to return.

The term 'stimulus' would be sufficiently proper as a general name for substances producing action in the animal system, were it not connected with the idea of excitement. It may be logically true, that excitement must follow the application of a stimulus, but it is a truth of no practical value. Excitement above the natural standard may exist in a part, and yet not be visible in the system. The effect of certain medicines and poisons is such that we cannot discover even local excitement. The debility produced by some of them is excessive, and yet no proportionate excitement has preceded. And the effect of each is so different from the rest, that one is forced to admit that there are many operations which may be produced on the living principle, and that confusion must result from blending them all under the name of excitement. By admitting this variety of operations, we shall no longer remain under the delusion that animal actions are simple, admitting only of increase and diminution; a doctrine which can never be proved correct but in theory, and which, according to our present knowledge and faculties, is certainly not correct enough for practice. By admitting this variety, we may direct our attention to the peculiarities of every species of action, artificial or morbid, and if we find in any of the latter too powerful an enemy, we shall have learnt which of the former may with greatest success be brought forward as its opponent. This is no visionary plan;—it has been followed with eminent success in prescribing mercurial remedies. Syphilis, one form of morbid action, first yielded. Yellow fever, and typhus, have been cured; and small-pox, measles, &c. have been mitigated. Even diseases purely inflammatory have found an antagonist in mercury; if the remedy were a stimulus producing excitement, how could it relieve a disease of excitement? Disease and antidote, therefore, although the ancients may have failed to understand the nature of their opposite effects, are terms expressive of circumstances actually observed.

There may be other effects of great importance produced by the medicines we prescribe to change a morbid action. Calomel, for instance, cleanses the alimentary canal, and thus removes, in some cases the cause of disease, in others a source of great aggravation. Calomel promotes absorption, and as this may be produced to its fullest extent, without raising the mercurial action (as evidenced by salivation) to its highest grade, it is probably not merely a part of general mercurial action, but an effect produced by calomel in common with other medicines.

The liver seems to be peculiarly under the control of calomel. At p. 80, we find recited an opinion of Dr. Currie of Guy's hospital, that it emulges the biliary ducts. Dr. E. Miller considers it is an effectual "detersive," and occasioning the discharge of more "bilious and other acrid matter of every description at once, than other cathartics at several evacuations." A chemical theory has been invented to explain this, by Mr. Scott of Bombay;

'He mixed the resinous base of the bile of a buffalo with half its weight of the red calx of mercury and ten or twelve ounces of water. On heating the whole, he was surprised to find that the bile became more soluble in water; This he supposed was owing to the oxygenation of the resin by the pure air of the calx.' p. 81. If this chemical union should take place in the living body, when mercury is used as an evacuant, must there not be some passage for it to the liver, less circuitous than the blood vessels? is retrogade action of the ductus choledochus more improbable than retrogade action of the absorbents? And if the above chemical theory be not tenable, does the entrance of mercury into the liver by that route to act as a "detersive," involve greater improbability, than an hypothesis founded on sympathy would involve of mystery?

We also suspect that the "alterative" effects of mercury, as they would be termed by Mr. Abernethy, are not a part of general mercurial action, for those effects are produced only by very moderate doses, and they cease when salivation comes on.

All these subordinate operations of mercury are themselves often curative, but they do not explain the benefits of its exhibition in those diseases where salivation, that is, general or complete mercurial action, is necessary to the cure.

What we have advanced respecting the effects of this mineral, is chiefly an account of facts, and will, therefore, make but few converts; theory is the net in which converts are to be caught. A few such words as stimulus, excitement, sympathy, "digestion in the blood-vessels," &c. may be strung together and form a rosary, which a devout theorist will repeat with as great enthusiasm as a catholic does his beads. But to say that calomel has cured typhus, is to assert a mere truth, which minds of a certain cast will not attend to until it be suitably embellished. Now we are of so dull a turn, as to give knowledge a hearty welcome even in a homely dress; but in spirit really philanthropic, we should rejoice if a good court-dress could be procured, that it might please the more fastidious. If such have followed us thus far, they may now return, for we shall proceed to a cursory review of the practice contained in the book before us, without once digressing for a theory.

Dr. Warren does not pretend to have over-distinct ideas concerning several forms of fever which have occasioned infinite dispute among medical men. His object is to shew what have been the effects of mercurial remedies; and that objections to their use should not arise from a name, and that all parties may be accommodated, no less than four divisions are made of the various forms of fever which have been indiscriminately called yellow fever. "*Malignant pestilential fever*" specifies the disease for which Dr. Chisholme prescribed mercury, and laid the foundation of its present extensive use. A purge of calomel and jalap was first administered in some cases, but no other evacuant; afterwards calomel in large doses, with or without opium, until salivation was produced, "which was generally in twenty four hours"; and which practice was never unsuccessful when "pushed to the full extent."—In "*yellow remittent*," another form of fever, or at least another name, the same practice was pursued; in one of the cases recited, bloodletting was premised. We cannot but insert the following paragraph, as it affords in favor of the mercurial practice, an argument of that peculiar nature which seldom fails to convince,—a conclusion arrived at by reasoning both a priori and a posteriori.

'It is remarkable, that about the same time, those two practitioners, Dr. Chisholme, and Dr. Bryce, should have come to the same conclusion, with respect to this disease and its remedy, by different paths; the one, from the diseased state of the liver, and the other abdominal viscera, having inferred the aptitude of mercury for the cure of the disease; the other without the help of dissections, from the success of mercury having deduced the nature of the complaint. This circumstance may, perhaps, with justice be urged as strong evidence in favor of the treatment.' p. 72.

"*Fever* combined with *hepatic* and other *visceral affection*" is another name of the fever for which mercury has been so successfully employed. In these cases bloodletting has been sometimes premised. Some very respectable practitioners dissent from this practice, and consider mercury serviceable only as an evacuant. Dr. W. however appears to be favorable to the full mercurial treatment.—These three denominations of fever prevail abroad, and our author speaks of the symptoms and treatment only as described by others. Typhus, and "yellow fever," as they have prevailed in Boston, form the subject of Part III. We shall first notice the latter.

The "yellow fever" was epidemic for the first time in Boston in 1798. It began in June, and was supposed to originate from putrefying hides and spoiled beef, and no evidence of importation could be produced. During six weeks of the period of its prevalence, the air was perfectly calm, and the heat extreme. On dissection, congestion and its effects, were visible in the liver, lungs, and stomach. This led to the use of calomel, under which, and the disease having assumed a milder character, the cures became more numerous.

'Calomel was usually prescribed, after bleeding and a purge, in doses of two or three grains every two hours, till the mouth became sore; upon which the disease invariably gave way; in many persons however this could not be accomplished. In some cases of salivation, dangerous hæmorrhages ensued.' p. 115.

In 1802, the "yellow fever" again appeared in Boston, "with all the circumstances of its former malignity." The same plan of treatment was pursued, and with similar good effects; but the only case related in which bloodletting was prescribed, terminated fatally. The origin of this epidemic was disputed, but Dr. W. admits that circumstances "afforded a plausible support to the belief of importation." Mercury is considered by our author not only as a remedy for yellow fever, but he even thinks its "prophylatic power indisputable."

These four diseases, must have some common character which renders them all subject to the "Sampson of the materia medica" almost unassisted by any other means. We make this remark, not as an argument for their complete identity, but to show how far they are removed from typhus. In the latter disease, mercury has not had effects, in any degree, so beneficial as in yellow fever of all denominations. We speak of its general action on the system; as an alterative, it has been attended with good effect in the early stages, followed by bark in the later periods. After its use has been intermitted on account of debility, and wine and bark, with a restorative diet, administered with little good effect, calomel again had recourse to, has proved eminently advantageous. But mild evacuations, cold ablutions, mineral acids, bark, and wine, stand much higher as remedies, than mercurial preparations, in the cases recited by Dr. Warren. Dissections of patients who have died from typhus, have not exhibited visceral congestion in any great degree, and in this, perhaps, a part of the difference between typhus and yellow fever may consist.

This account of the partial success of mercury in typhus, by no means corresponds with the good effects said to attend its exhibition, by many of our practitioners in this city. Here, it is said to have as great power over this disease as over yellow fever. The following may be the cause of these different results: Dr. W.'s cases are of typhus gravior, or at least, of genuine typhus; but we suspect that the fever ordinarily called typhus in this place, is in fact synochus. We certainly have seldom occasion to prescribe for typhus gravior.

Our author does not greatly advocate the use of calomel in small-pox, considering it as advantageous only in common with other cathartics, and ascribing to the cooling regimen the good effects usually attributed to mercury. In measles this mineral is also recommended, chiefly on the authority of Dr. Holyoke, of Salem, who considers it as efficacious "in correcting the secretions from the glands of the nares and fauces;" and "in the pneumonic and anginous symptoms, which are often the most troublesome and dangerous attendants of the disease, he has great confidence in the exhibition of mercury, particularly in emetics of turpeth mineral, (yellow sub-sulphate of mercury.)"

In a violent form of cynanche maligna, attended with erosion and excoriation "wherever the saliva was lodged," which occurred in 1735, calomel alone was depended on to stop its progress. But in 1802, when it again appeared, the debility was too great to admit of its use, except in combination as a mild cathartic. What its efficacy in croup has been, we cannot make out; it would seem that this disease has generally been fatal at Boston, as well as elsewhere. We must confess, that an explicit account of the author's mode of practice, and its success, would have been more satisfactory than the glance he has made at the practice of one or two other physicians.

In common with most practical men, Dr. Warren doubts whether "it has ever effected a cure in real hydrocephalus internus." He mentions a case of a child, in whom the disease progressed regularly, in spite of a mercurial course kept up for three weeks; coma, &c. came on ten days before death.

'The head was opened, and from the ventricles of the brain, was extracted a quantity of water, amounting to about ten ounces. This volume of fluid occupied so much space in the cranium, as to have borne a considerable proportion to the whole cavity. It had not the effect of distending the cranium at the sutures, which were not yet closed.' p. 148.

From this fact he very decisively argues, that the brain has absorbents, and, from the supposed quality of increasing absorption, which mercury possesses, that it must be a proper remedy.

In "pneumonia and pleurisy" the efficacy of mercury is attributed to its promoting expectoration. This, no doubt, is one of its good effects, but if this alone were required, it should not be administered until the usual period of expectoration, the third or fourth day. But it is of use earlier in the disease, and, without searching into its minute operation, we should prescribe it on the mere ground of its general utility in inflammation.—The only case of phthisis pulmonalis, in which our author found it useful, was, indeed, attended with expectoration "of matter of a purulent appearance," but was not well enough marked to increase our confidence in this drug. We have never seen the occasional success of mercury so well accounted for, as in a paper by Dr. E. Black, of this city. See Med. Rep. vol. xiii. p. 116.

Our author prescribes calomel in dysentery, without opium, giving it in doses of three grains every three hours, or with ipecacuanha in a large dose. In one case of this disease "in the most violent form," twenty-five grains of ipecacuanha with fifteen grains of calomel, "produced a most copious evacuation of fœcal matter, which had been long retained, and he had never another dysenteric discharge."

In rheumatism, mercury is also supposed beneficial, when administered so as to affect the gums.

These are the several "febrile diseases" for which mercury has been prescribed. Our author's remarks on them are entirely practical, and they comprehend many valuable observations besides those bearing directly upon his subject. They constitute a valuable epitome of American practice in many diseases Our analysis has been very general, and we regret that our limits do not admit of larger quotations.

There are two particulars concerning the use of mercury to which we would draw the attention of our readers ;—not those of a speculative turn, but practical men. Mercury is useful in many inflammatory diseases, such as pneumonia, rheumatism, cynanche, &c. ; it has less good effect in typhus gravior. Do these facts throw light on each other? And may we conclude that all the diseases of which mercury is curative, are inflammations, or their consequences? We do not suggest this for mere speculation, to be asserted or denied at a moment's warning, but for the reflection of the scientific practitioner, for his observation and judgment. If found correct, the inference will be, that all these diseases may at some period be cured or relieved by depletions. This would coincide with the inference, which may be drawn from the utility of blood-letting in very many diseases, as practised by Dr. Rush and others. We might enlarge on these particulars, but we fear lest we should obscure in hypothesis, what we have deduced from practice, and what we have expressed in terms as practical as possible.

ESSAYS AND CASES.

I.

A case of Hypochondriasis, or Tristimania; with remarks on this disease. By Samuel Akerly, Hospital Surgeon, U. S. Army.

Communicated to the Editors of the N. Y. Med. Mag.

The life of our illustrious countryman, Dr. Benjamin Rush, was prolonged to a good old age, that posterity might profit by his manifold labors in medical science, particularly on the subject of mental diseases. After the publication of this last effort of his vigorous mind, his work was done,—he became sick and died. He has erected to himself a monument, "aere perennius," more durable than brass, and has left to his posterity a legacy of incalculable value. Such is his late work "Upon the Diseases of the Mind."*

The following case of tristimania accords so well with his observations, his arrangement, and his treatment of the disease, as to afford an inducement to its publication. But for a perusal of this great work of our medical sage, the history of this case would have been forgotten or remained in obscurity.

In the month of July, 1807, a man of small stature, a shoemaker by trade, and apparently about forty years of age, was attacked by that form of mental derangement denominated hypochondriasis, or, more properly termed by Dr. Rush, tristimania. Sad, indeed, was the state of his mind; and great were his sufferings. Corporeal pains and afflictions are borne with patience and resignation, but the pangs of a disordered mind are beyond endurance. Such was the state of this patient. The efforts to relieve himself from this plenum of misery were constant, violent, and ineffectual. Had he been left to himself, death alone would have relieved him from his wretched condition. Humanity prevented him from committing suicide, by restraining him in the use of means, and thus his life was preserved that his health might be restored in the twinkling of an eye. The providence of God was never more strikingly displayed than in relieving this miserably wretched being from his torments.

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* This work was published in the Autumn of 1812, and he died on the 19th of April, 1813, in the 69th year of his age.

On the 6th of July, 1807, the maniac was running at large in the city of New-York, lacerating his flesh, and beating his head with violence against the sides of the houses. Had he been a resident of Asia, this madman's exercises would have been taken for the exercises of some fanatic dervise, and death must have ensued. But when, from the appearance of blood and bruises, it became evident that he was deranged, he was taken up by the citizens and conveyed to the New-York Alms-House. There being no accommodation for maniacs in that institution, he was directed to the New-York Hospital. The Lunatic Asylum being unfinished, patients of this class remained in the cells of the old building under the care of the house physician, in the absence of the attending physician. Acting at that time in the former situation, the patient came to my charge.

In the afternoon of the 6th of July, a crowd attended the unhappy being to the Hospital gate. With his arms tied behind him and in the greatest agony, his face bruised and swollen, his lip torn to pieces and streaming with blood, his attendants ushered him into the Hospital. I met them at the door and inquired into the case. The poor maniac was eager to tell his own misery, but with difficulty collected words to convey it. His language was, indeed, copious, but his agitation was so great that he could hardly utter a sentence, being interrupted by constant efforts to tear his lip to pieces. His attendants knew nothing of the man, but that they prevented him from beating out his own brains.

At length he conveyed the information where his distress was, and upon which his mind was deluded.

In his upper lip there was a worm gnawing his flesh and penetrating into his body, and unless he could tear him out he would soon be beyond his reach, and inevitably destroy him. This was the cause of his misery.

He was assured of the possibility of relief; and with a smiling countenance, I patted him on the shoulder, and bade him no longer be uneasy, for I would cut out the worm. His eyes sparkled, and in an instant he replied, "*will you? do it then: do it quick, for God's sake !!*" Previous to executing the promise, however, I determined to try the effect of the cold bath. He was immediately taken into the bathing room, stripped and made to sit down in the tub. He bore the effusion of seven or eight pails full of water from the pump* without stirring or complaining. He arose from the bath and commenced covering himself; but he dropped his clothes, and seized his lip. Thus, although for a few moments while he was in the bath, he was comparatively happy, yet he experienced no permanent relief; and when dressed, his horrors all returned. He was urged not to despair, for I was now ready to remove the insect preying upon his flesh. Accordingly, we proceeded to the cells of the maniacs, where, being seated, he fixed himself for the operation. I paraded six lancets on the table before him. By making a display of this and other preparations, and sending for assistance, he became composed, waiting with patience the result.

In the mean time I had sent in search for a worm. The person despatched for that purpose being unsuccessful, staid too long, and therefore I went in search of one myself. The worms or caterpillars which had infested the poplar-trees,† and created in New-York so much alarm on account of their supposed poison, were at that time very plenty.

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* Temperature of the water about 54° of Farenheit.

† For Mitchill and Schenck's account of this terrible creature, see Med. Rep. vol. x. p. 98—100.

One of these had fallen from the tree by the door, where one end of it had been trodden upon, and the insect nearly killed. This worm I had seen previous to the patient's admission; and now, while he was anxiously waiting an operation, I ran and brought it in a minute. On returning, I found his uneasiness again commencing, but seeing me take the instrument, he fixed himself in the chair, and requested my assistants, (the apothecary and orderly-man,) to hold his hands, lest he should start while under the pain of the cutting instruments.

With a lancet the operation was commenced. I pricked his lip pretty smartly with it, which made him flinch a little; he accordingly leaned back his head firmly against the person who stood behind him, and shut his eyes tightly, and thus fixed, he bore the repeated pricks of the instrument with steadiness and fortitude. After pinching his lip with one hand, and wounding it with the other, I cut off a portion of the upper lip, which he had torn with his nails, and was pendulous. I now assured him that the operation was nearly completed, for the head of the worm could be seen. The by-standers cried out, "*there it is, there it is!*" he raised his eyes to see. He was cautioned to be still one moment longer, when again shutting his eyes, I gave him a severe pinch, and drew the edge of the lancet across the lacerated lip, and exclaiming, I have got him! opened my hand, and exposed the great worm.

The maniac arose from his seat, and gazed at the worm with astonishment beyond utterance. At length he spoke and requested me to preserve it; for, he observed with tranquillity, that his friends had said he was crazy, but this would be an evidence to the contrary. Crazy! said I, it would be enough to make any one crazy to have such a worm in his flesh: I shall preserve it because it is singular, never having seen the like before; and when you go home send your friends to me, and I will convince them, for you are no more crazy than I am. The result of this deceptive operation was a perfect cure; and this remarkable change was effected in less than fifteen minutes after the patient entered the Hospital.

A general conversation now ensued, and the patient began to feel inconvenience from the swelling and soreness of his face and lips. He was invited to take some tea with bread and butter, which he swallowed with great satisfaction. Being thus composed, I inquired farther into the particulars of his case. The patient stated that he had been several days approaching to his late horrid condition, but was not constantly so wretched as he had been that day. A few days previous he was walking in the streets and saw an insect flying towards him in a line above his head: when approached within two feet of him he suddenly settled down and flew into his mouth, and there depositing an egg, made his escape. It was this egg which lay there some days, rendering him uneasy, but not distressed till it was transformed into a living worm, preying upon his flesh.

The next morning I visited him early and found him composed, though he informed me that I had left a portion of the worm behind in the operation of yesterday: but, said he, I put my finger in the hole last night and removed the shell in which the worm was enclosed, and now I am perfectly well and wish to go home. He was persuaded to remain a few days till the swelling of his face abated, and being removed from the cells to a sick ward, he shewed no signs of returning derangement during his continuance in the hospital; and after taking some cathartic medicine he was discharged, cured.

We find in the history of this case that the patient had obtained an obscure idea of the transformation which insects undergo in passing from the egg to the *larva* or caterpillar state, from that into the *chrysalis*, and then into the *imago* or perfect insect which first produced the egg. Where or how he procured this idea I am not informed, but he was in other respects an ignorant man, apart from his calling. The impression of this idea, which was probably new and unaccountable to him, might have been fixed in his mind, when on the 4th of July, (the national jubilee of the United States,) he had indulged himself too freely in *devotion* to Bacchus. While in this state of excitement, a fly, a gnat, or some other insect might have entered his mouth, and hence the train of reasoning on that idea, produced the effects above related, by the increased flow of blood to the brain, and particularly that portion upon which the impression was first made.

"It is worthy of notice (says Dr. Rush) in all these cases of erroneous judgment, the patients reason correctly; that is, draw just inferences from their errors. Thus the Prince of Bourbon, when he supposed himself to be a plant, reasoned justly, when he insisted upon being watered. In a like manner the hypochondriac who supposes himself to be dead, reasons with the same correctness when he stretches his body and limbs upon a bed, or a board, and assumes the stillness and silence of the shroud." Thus, too, the patient in the case above related, reasoned properly upon an error. He passed over, however, the intermediate stage between the hatching of the egg, and its conversion into a chrysalis. The insect deposits its eggs upon a plant, a tree, or other substance capable of affording nourishment to its young, which when hatched are sometimes many days or weeks in acquiring their growth; they are then changed into the chrysaline state, and then, only, enveloped in a covering, and lay nearly torpid without locomotion. The patient confounded two states together, and supposed the larva to be confined in its chrysaline covering in his lip, and yet be actively feeding, which could not be the case.

SAMUEL AKERLY.

II.

On the Coloring Matter of the Black Bronchial Glands, and of the Black Spots of the Lungs. By George Pearson, M. D. F. R. S.

From the London Medical and Physical Journal, February, 1814.

In the adult human animal, the glands designated *bronchial*, are generally of a black or dark blue color. These organs, which are allowed to be lymphatic glands, as is well known, are situated at the root of the lungs externally, within cellular membrane, near the bifurcated trachea; as well as internally on or near the large branches of the bronchi.

At the age of about twenty years, the lungs have a mottled or marbled appearance, from black and dark blue spots, lines, and points disseminated immediately under the transparent pulmonary pleura. As hath been repeatedly observed, the lungs generally become more dark-colored proportionately to their age. Accordingly, at upwards of sixty-five or seventy years of life, they often appear almost uniformly black, from the number and congeries, or coalescence of the maculæ, points, and lines, just mentioned. Throughout the whole interior substance of the lungs, the black spots are seen in a great measure corresponding to the external appearance.

I do not find that any observations and experiments have been made to determine the nature or cause of the black color, above described, of the pulmonary organs. It is true, a conjecture has been proposed, that sooty matter taken in with the air, may be the occasion of the color of the lungs; and that the color of the glands is occasioned by a peculiar secretion. But the former conjecture has been supposed to be satisfactorily refuted by the absence of the appearance in question among brute animals; as also by its presence in persons who breathe the air of the provinces at a great distance from towns, or places of great consumption of coal; and the latter conjecture is palpably erroneous, because the bronchial glands, of which I am speaking, are not organs of secretion, but of conveyance of lymph.

The course of investigation, in which I have long been engaged, to improve the pathology of pulmonary consumption, led me to some experiments and observations on the subject now stated, which I respectfully submit to the consideration of the Society.

After cutting away the cellular membrane surrounding the black glands, and washing them till the water was no longer colored, I subjected them to examination.

1. On pressure between the fingers, to burst the investing coat, a black fluid issued, which stained the skin, which rendered water black, and which did not alter in color, or apparently dissolve, even at a boiling temperature, either in water or in concentrated muriatic or nitric acids.

2. On breaking down the structure, and triturating in a glass mortar, a number of these glands with a small proportion of water, a thick black liquid was produced, which was decanted from off many membranous and fibrous masses. But after repeated affusions and trituration, I could not deprive these masses of their black color, although the water was at last scarcely tinged: it was only by dissolution in caustic potash lye, or in nitric and muriatic acids, that I could totally separate the black matter from the animal substance from which it seemingly adhered. After repose, a black sediment took place in the waters of elutriation, as well as from the alkaline, and the acid dissolution, which, on decantation and evaporation to dryness, afforded the deposit in the state of a black powder.

The texture and proportion of the tinging matter of the glands, was very different in different subjects, whether the lungs, to which they belonged, were in a healthy or discased condition. In persons of about eighteen to twenty years of age, some of the bronchial glands contained no tinging black matter at all, but were of a reddish color; others were streaked, or partially black; and others were quite black, or of a dark blue color.

3. By boiling the black glands in lye of caustic potash, their structure was destroyed, and a turbid black liquid was produced, from which, on standing during several days, a copious black sediment took place; but the liquid still remained black, after remaining at rest a month, much of the tinging matter continuing suspended. By dilution with water, this matter deposited in a clear liquid.

4. By liquid muriatic acid, of the specific gravity 1.170, the bronchial glands were dissolved at a boiling temperature, affording a turbid black liquor; but on repose, an abundant black deposit took place from a clear yellow liquid, as well as a quantity of the same matter appearing on its surface. On separating this precipitate, and evaporating to dryness, it became a black powder.

5. Nitric acid liquid, of the specific gravity 1.500, most speedily dissolved the substances under examination, affording a clear yellow liquid with abundance of black matter on its surface. The separation of this coal-like matter is effected most easily with this acid.

It may not be quite superfluous to mention, that from the bronchial glands, which were not at all colored with black matter, but were merely red, no black matter was separable by the above-mentioned acid and alkaline solvents.

I next examined the black and blue coloring substance of the surface and interior parts of the lungs.

1. A portion of the lungs, beautifully marked with a crowd of these colored areolæ, spots, points, and lines, after being washed till it no longer imparted a bloody tinge to water, still retained these appearances undiminished. On pressure of these colored parts between the fingers, the skin was sometimes stained of a black color.

2. On treating the substance of the lungs, abounding in the above-described black and blue parts, in the same man-

ner as the bronchial glands just related, with water, with liquid caustic potash, with muriatic and with nitric acids, similar phenomena, with specially the separation of black matter, was observed. The proportion, however, of this black substance was very much smaller to the animal matter dissolved, than in the former cases.

3. To show that the black matter is of the same kind in the differently figured black parts of the lungs, it may be worth while to relate a particular experiment.

A thin slice of about three inches square of the surface of lungs, exhibiting black lines, maculæ, and points under the transparent pleura, was put into a vessel containing three ounces measure of liquid nitric acid. On this it floated; but all of it was presently dissolved, except the colored parts, which retained their respective forms till the vessel was shaken: then they were destroyed, and afforded a coating or stratum of black matter on the surface.

Having collected an adequate quantity of the coloring matter in a powdery state, for examination, I performed a number of experiments, but it seems needless to relate more than a few decisive ones.

1. A little of the well exsiccated black powder being sprinkled upon fused nitrate of potash, deflagration took place as with charcoal of wood, or with soot.

2. The same phenomenon occurred with melted oxymuriate, or chlorite of potash, but at a much lower temperature.

3. The deflagration with nitrate of potash, and also with chlorite of potash, was produced, in a suitable glass vessel, to collect the compounded gas; which was received into lime water, and found to be charcoal acid.

4. A little of the black powder was very easily ignited upon a plate of platina, and was speedily burnt off, smelling like burning animal matter, and leaving a minute residue, sometimes of reddish powder, and at other times of white.

5. The powder was ignited in a green glass tube, closed at one end, and kept red hot from ten to fifteen minutes,

the open extremity being slightly stopt with a clay lute, to prevent the admission of air. A white vapor with water was discharged, and a minute portion of animal empyreumatic oil was condensed in the upper part of the tube. There remained, on cooling, a fine black powder, which in different trials lost 1-7 to 1-4; i. e. about 14-100 to 25-100 of the original weight of the substance.

6. On treating the coaly powder by exposing it to fire, and with the pneumatic apparatus, the products were always charcoal acid, hydro-carbonate gas, and much water, with generally a little empyreumatic oil, and sometimes a trace of prussic acid, leaving a residue varying in weight as just stated.

From the properties above manifested, I conceive I am entitled to declare the black matter, obtained from the bronchial glands, and from the lungs, to be animal charcoal in the uncombined state, i. e. not existing as a constituent ingredient of organized animal solids or fluids.

I mean by the term animal charcoal, what is popularly understood. Of course I do not mean pure charcoal. Such a state of this substance cannot here be reasonably expected, either from a consideration of the state of it, as inspired from the atmosphere, or from its necessary impregnation with animal matter during its long residence in the lungs. I imagine no person would hesitate to consider such a coaly substance as the present to be charcoal, if derived from other sources besides the animal economy; it being, as shown by the preceding experiments, a black, tasteless, infusible powder, indissoluble in muriatic acid, nitric acids, and perhaps all common acids, except the sulphuric, affording as large a proportion of charcoal acid, as animal and vegetable charcoal, which has been exsiccated at the same temperature, and equally resisting fire in close vessels.

For the purposes of physiology, a few theoretical remarks may, perhaps, be useful. I think the charcoal in the pulmonary organs, is introduced with the air in breathing. In the air, it is suspended in invisibly small particles, derived from the burning of coal, wood, and other inflammable materials in common life. It is admitted that the oxygen of atmospherical air passes through the pulmonary air vesicles, or cells, into the system of blood-vessels; and it is not improbable, that, through the same channel, various matters contained in the air may be introduced. But it is highly reasonable to suppose that the particles of charcoal should be retained in the minutest ramifications of the air tubes, or even in the air vesicles, under various circumstances, to produce the colored appearances on the surface, and in the substance of the lungs, as above described. It must also be considered that innumerable absorbent lymphatic vessels take their rise in the bronchial tubes; for the lungs are more richly stored with lymphatic vessels than any other organ, excepting the liver. When I compared the black lines and black net-like figures, many of them pentagonal, on the surface of the lungs, with the plates of the lymphatic vessels by Cruikshank, Mascagni, and Fyffe, I found an exact resemblance: and when I found that these vessels contained charcoal, I judged that it was fair to infer, that the lymphatics of the lungs absorb a variety of very different substances, and especially this coaly matter, which they convey to the bronchial glands, and thus render them of a black or dark-blue color. Hereafter, among other enquiries, the color of the large trunks of the lymphatic vessels, just *before* they enter the bronchial glands, and just as they pass out of them, ought to be observed. Also the effect of the charcoal thus conveyed into the thoracic duct, or directly into the blood, by the lymphatics from the black glands, is, I presume, worthy of attention.

According to this theory, we can account reasonably for the absence of the black color of the bronchial glands, and of the lungs in infants, in children, and even frequently in persons of eighteen or twenty years of age. For the same reason these appearances are seldom observed in any brute animal which has fallen under my observation. On a subject so novel, or at least so much neglected, as that on which I am writing, many facts are wanting to establish, demonstratively, any theory which can be proposed; but I know of none, at this time, which are at variance with that I have ventured to offer.

George Street, Hanover-square,
June 13, 1813.

P. S.—Since my last communication to the Society, I have had an opportunity of making some further observations and experiments on this subject.

"The lungs of an infant, who lived two days, were obligingly sent to me by my friend Mr. C. M. Clarke. I found the bronchial glands quite white, and the lungs appeared externally of an uniform reddish color. The pulmonary organs of a girl fifteen years old, I found rather thickly mottled, but the bronchial glands were only tinged on their surface, and did not yield one-fourth of a grain of coaly powder. In two other females also, aged nearly fifteen years, who died of pulmonary consumption, the lungs were not at all marbled, but some of the bronchial glands were tinged black, and others were white. The lungs of two men, the victims of pulmonary phthisis, at the age of twenty-one years, exhibited thinly, black spots, streaks, and areolæ, with many of the glands in question of a deep-blue color. A woman's lungs, thirty-one years of age, were found studded beautifully with black spots and lines, the bronchial glands being all either blackish or blue. In no instance have I observed the lungs and glands, here spoken of, so black, and from which I separated so much charcoal, as in those of a person forty-two years old, whose death was occasioned by a most extensively-diffused tubercles, many vomicæ, and a considerable condensation of the pulmonary organs. I now recollect that this subject had been a smoker of tobacco. generally several times, but always once a day, perhaps more than twenty years." Future observations must determine more satisfactorily the state of the pulmonary organs, according to the impregnation of the air with sooty vapors. If, hereafter, it be shown that the lungs of persons living remote from sources of such vapors, are still greatly impregnated with coaly matter the just conclusion can only be, that such matter is more extensively diffused through the atmosphere than is apprehended. This being the fact, it would also afford a proof that it is only the invisible small particles which are absorbed, for the larger particles remain unabsorbed, entangled in the mucus lining the air vessels, and never get farther, but are rejected from time to time by expectoration. Accordingly, in a morning, healthy people, after the night's rest, very commonly hawk up mucous matter of a bluish color with black streaks, owing to charcoal; and persons in a diseased state, especially by great exertions in coughing, frequently expectorate matter spotted and streaked with black particles. The quantity of coaly matter in the pulmonary organs is not entirely according to the age, for I was disappointed on finding the lungs and glands in a woman of seventy-five years of age, in London, not more deeply colored than is usual at the age of fifty. At present I am unable to state any connexion between certain diseases, and the presence of coaly matter.

Farther investigation has shown, that this coaly matter does exist in domesticated brute animals; but as they die, or are killed generally before they attain to twenty years, or even fifteen years of age, the organs in question are seldom seen blackened. However in diseased conditions, the cases are not according to this rule. With the approbation of Professor Colman and Mr. Sewel, several of the worthy students of the Veterinary College have frequently obliged me by furnishing, for my examination, the lungs of horses and asses. In general the bronchial glands were merely white, or reddish; but now and then they were partially black. In one instance of an ass, only six months old, these glands were black from coaly matter; but the lungs were uniformly red. The animal had died of peripneumony. In no instance have I seen, in any brute creature, the lungs marbled and streaked with black lines as in the human. There is seldom an opportunity of inspecting horses which die from their natural age, viz. of thirty to forty years; for I am informed they mostly die or are killed in London before they are fifteen or sixteen years old. I have not seen coaly matter in the lungs or glands of the ox kind, sheep, and hogs. The black appearances produced by distended blood-vessels and by ecchymosis, should be recollected, to avoid the error of ascribing them to charcoal. The absence of this matter in human creatures, at the ages just mentioned, when animals are slaughtered or die, affords a proof, although not a decisive one, that the exemption is more reasonably ascribable to the circumstance of time, and living in the open air, than to the peculiarity of the economy of each species of live being. Consistently with this observation, in the instance of a cat, known to have lived in Mr. Thomas's family at least eighteen years, the bronchial glands were quite black from coaly matter, and the lungs were uniformly red; but in all other examinations of much younger cats, I found these glands either white or red.

The blackness of the lungs from charcoal remains, although hæmorrhage to occasion death has occurred. It is not removable by ablution, or maceration in water, nor by acids, nor alkalies, nor by the early stages of putrefaction. I have not met with a similar coaly substance in any parts of the animal economy except the lungs. The glands of the mesocolon are sometimes black, similarly to the bronchial; but the colour soon disappears on immersion in nitric or muriatic acids, no charcoal being separable. The black, or more truly the dark brown tinging liquid of the sepia, I have ascertained by experiments, does not contain uncombined charcoal; this matter existing there only as a constituent ingredient of animal matter.

As I have represented, it is conceived that the coaly matter is very slowly absorbed by the mouths of the lymphatic vessels in the innumerable air tubes and cells.

To determine whether or not this matter exists in these lymphatic vessels, and is the occasion of the black maculæ, streaks, and areolæ, or marbled appearance of the surface of the lungs, I entreated Mr. Wharrie, of St. George's Hospital, whom I knew to be a skilful anatomist, to inject these vessels with quicksilver. In some trials, the injection passed without interruption, in the usual manner; but in others it was apparently obstructed, by meeting with the black lines on the surface. Mr. George Ewbank also, at my desire, very dextrously dissected out about one inch in length of one of these black lines, supposed to be a lymphatic vessel. Being put into a glass capsule, full of nitric acid, the black line immediately was contracted in all its dimensions; but it retained its form after digestion, for several days, at a high temperature; afterwards, on gently shaking the capsule, the black line was broken into a number of indissoluble particles. In the interior of the lungs, it is not unusual to see black spots in the middle of tubercles, although the substances consist apparently of self coagulated lymph probably secreted in the cellular substance, and therefore very likely to envelope the coaly matter in the air tubes by the coalescence of numerous minute tubercles.

It has been objected, that the nitric acid may develope the constituent or combined ingredient charcoal of all animal substances, and consequently no proof will be thereby afforded of this matter being extraneous; but on many trials, I have never by this means obtained charcoal from any animal mucilage.

I have no reason to believe that any of the coaly matter under investigation is dissolved by this acid, for on distilling a pint measure of it from ten grains of the black powder of the bronchial glands, there was no sensible diminution of it, whether it was so treated before ignition, or subsequently: on evaporation to dryness, nitric acid, in which the coaly matter had been boiled, afforded no black sediment. Hence, I conceive that this menstruum may be employed to determine more accurately and speedily, the proportion of the coaly matter, than any other agent. Sulphuric acid does dissolve a certain portion of this charcoal, affording a transparent liquid, even on dilution with water.

III.

A new method of Resuscitating Still-Born Children. By Dr. Gilbert Smith, Physician and Surgeon to the New-York Alms House, &c.

Communicated in a Letter to the Editors of the N. Y. Med. Mag.

Gentlemen,

As we too often experience the mortification of witnessing the total inefficacy of the most persevering and well-directed efforts for the recovery of still-born children, any attempts to add to the stock of means which have been found useful, I think must not be unacceptable to the public. If the method which I have accidentally adopted in the first instance, and which my subsequent experience, as far as it has gone, would seem to warrant, should not have been hitherto employed, I feel a confident persuasion that whoever will give it a trial will not be dissatisfied with the result. The following case will, I think, be sufficient to prove its efficacy.

About three years since I was called upon to attend a lady with her first child; it being a breech presentation, the labor was of course tedious, and the head was retained such an unusual length of time after the body was delivered, that, apprehending the most serious consequences, I directed a warm bath to be in readiness, into which the child was placed immediately after delivery. At this time there was no pulsation in the chord, or the smallest sign of life. Its legs and spine were frequently rubbed with stimulating applications, while I was assiduously employed in endeavoring to excite action in the lungs by breathing into them, and pressing out the air alternately. This process was continued for the unprecedented period of two hours, when my strength failing, I was upon the point of discontinuing any farther effort as useless; when one of the attendants, by whose importunity I was, perhaps, induced to persevere for such a length of time, proposed my taking some refreshment, and handed me a glass of brandy and water; after having drank, I resumed my labors, when the idea forcibly struck me, that the alcohol might be volatilized by the heat of the mouth, and breathed into the lungs. I immediately called for some brandy undiluted, held it sometime in my mouth, and again inflated the lungs; shortly after which I had the inexpressible satisfaction of perceiving unequivocal signs of returning life, which increased until the child was restored. Since which period I have had occasion to employ it in three instances only: two of the three were restored immediately on the application of the stimulus upon the lungs.

One of these cases was a little remarkable;—the child, although born with all the signs of perfect health and vigor, after a very natural labor, without any apparent cause, suddenly put on the appearance of dissolution; but was instantly restored as soon as the lungs were inflated in the manner above mentioned.

GILBERT SMITH.

IV.

Cases of Rabies in Dogs; by Mr. Youatt.

From the London Medical and Physical Journal, March, 1814.

The practitioners of the veterinary art owe much to the liberality of the teachers of human medicine. They are, fortunately, enabled, in some imperfect degree, to repay the obligation by the superior advantages which their profession gives them for the study of comparative anatomy and physiology.

In no respect can they contribute more essentially to the perfection of medical science, than by the light which their experience enables them to throw on the history of Rabies Canina; a disease yet involved in much obscurity, and the cure, or even alleviation of which, is a desideratum in the art.

To my partner, Mr. Blaine, the medical world is indebted for the only detailed and correct account of the symptoms of rabies in dogs, (with the exception, indeed, of Mr. Meynell, Medical Commentaries, vol. xix. p. 90.) and from him a late writer on the bite of a rabid animal has unblushingly borrowed the most valuable part of his essay, though he had not the candor to acknowledge or even glance at his obligation.

The enclosed history of some cases of rabies canina, which occurred in my practice during the last year, is transmitted to you, as a very humble contribution to the knowledge of this dreadful malady. They are selected from many others, as clear and decisive in themselves; and each of them is marked by distinct and characteristic symptoms.

CASE I.—January 18th, 1813.—Mr. G.'s terrier yesterday quarrelled with and bit another dog, with which he had been always friendly.

19th.—Having been costive two days, his master gave him some castor oil. In effecting this he was severely bitten. Alarmed at a ferocity which he had never before observed in the animal, Mr. G. sent for my partner, Mr. Blaine. The dog snapped at a stick, and shook it, but not without being a little teased. He howled frequently, with his head lifted up, but much of the bark was mixed with the howl. His head frequently drooped, and his eyes closed; he then suddenly started, lifted up his head, and howled.

20th.—To-day I saw him. He was busily employed in drawing the straw from his kennel, and shaking it violently. He instantly, and ferociously, flew at a stick. The howl was perfectly characteristic. He had lapped his urine, and had gnawed away his penis considerably below the glans. He yet knew his master's voice, and was obedient to his call. He eagerly lapped milk and water, and readily swallowed it.

At Mr. G.'s request he was immediately destroyed.

The trachea and œsophagus exhibited no morbid appearance. The stomach was very highly and generally inflamed, and completely filled with hair and straw. Several patches of inflammation were seen on the lungs. The diaphragm in some parts was livid. The duodenum and jejunum were violently inflamed, but the inflammation was lost in the ileum. The dog which was bitten by him rabid five weeks after.

Case II.—March 3d.—Mr. L.'s terrier, very gentle and docile, had been two days costive and dull, and had obstinately refused all food. He now became suddenly furious, gnawed his kennel to pieces, and in the violence of his efforts broke all his incisor teeth. In the intervals of his violence his head drooped, and his eyes closed for a moment; he then suddenly sprang up, and recommenced his attack on the kennel.

4th.—His strength was much exhausted. His eyes had lost their ferocity, and had a dull greenish appearance. The sight of one eye was gone. The breathing laborious, with a peculiar choking noise. Eagerly seized his meat, carried it to his kennel and laid on it. On giving him water in a shallow dish, he first lapped it eagerly, and then deliberately laid across it, burying his chest in it. Doubting whether this might not be accidental, he was rouzed, and the pan was removed to a little distance, yet within his reach: he immediately went and again laid across the water, immersing his chest in it. The water was then taken away, and soon after he eagerly scraped all his straw into a heap, and lay across it with his stomach resting upon it. He yet knew and fondled on his master. In the evening he died. He at no time gave the characteristic howl.

On opening the head, the longitudinal sinus and the vessels of the coats of the brain were beautifully turgid. The substance of the brain was reddish. No fluid in the ventricles. The pharynx and larynx were unaffected. The mucous membrane of the trachea was slightly, and the lungs were violently inflamed. Large patches, not spots, of inflammation appeared on the villous coat of the stomach. A considerable quantity of indigesta was contained in the stomach. The duodenum and jejunum were much inflamed, but the inflammation ceased in the ileum.

CASE III.—August 7th.—A terrier, usually very gentle, was observed to be irritable and fretful; almost incessantly employed in hunting flies, except that for a moment his head suddenly drooped, and his eyes closed.

8th.—In the morning he seized his mistress' hand, and mumbled it, pretending to bite. He repeatedly did the same with her feet. The servant could scarcely drive him from *her* feet. He lapped eagerly, and took his food readily, but dropped it. In the afternoon he bit the gardener, and then fell furiously on the cat, and almost worried her to death. Had been costive three days.

9th.—To-day I first saw him. He was employed in tearing his bed and kennel to pieces, with strange diligence. Thirst excessive. Plunged his whole face in the water, yet could not swallow. His eyes were fierce. He flew furiously at a stick. His bark not changed. On my deciding that he was rabid, his master immediately shot him. The larynx, pharynx, trachea, and œsophagus were unaffected; but the left lung was slightly inflamed. The cardiac portion of the stomach was slightly inflamed, and distended with hair, leaves, straw, &c. The intestines were not affected.

CASE IV.—October 4th.—Mrs. M.'s pug had for the last three days been unusually peevish. To-day he flew at his mistress, without provocation, though he had before been much attached to her. He then worried the cat, ran away, was seen to bite several dogs, and did not return until the next morning.

5th.—He was shut up in the wash-house, and meat and water were given him. He was not heard to bark or howl;

but he gnawed the doors and windows to an extent that appeared almost incredible.

6th.—To-day I saw him. His meat was untouched, but the water all gone. He had lost all inclination to bite. I could not provoke him to bite. Staggered every moment, and towards evening was quite paralytic in his hind limbs. Purged violently. Knew his mistress, and was eager to be caressed. Died in the night. No howl.

The pharynx, larynx, œsophagus, trachea, and lungs unaffected. The stomach generally and highly inflamed, and quite empty. The intestines much inflamed, and considerably thickened through their whole extent.

Case V.—October 9th.—A terrier had for two days been unable to shut his mouth; had appeared eager to eat, but after many ineffectual attempts, dropped his meat. Imagining it to be a sore throat, the servants had given him several medicines, and two of them had scratched their hands against his teeth. The disorder apparently increasing, I was sent for. The lower jaw was completely paralytic. The tongue hung out, and was of a leaden colour. The thirst extreme. Buried his nose in the water, but could not swallow. Flew furiously at me, but was unable to bite. A stick enraged him violently. Seemed to watch some imaginary objects in the air, and attempted to snap at them. Staggered as he walked. The head heavy, and eyes frequently closing. Knew the servants, and was obedient to them. Made no attempt to bite a dog which had been his companion. No howl.

Contrary to my request, he was immediately destroyed. The tongue was swollen, and of a leaden color at the tip. The stomach was empty. The fauces inflamed and swollen. The trachea and lungs unaffected. The vessels of its outer coat were very turgid. The villous coat was highly and generally inflamed, with spots of a deeper color. The bowels inflamed through their whole extent, and almost gangrenous in some parts.

Case VI.—October 17th.—Mrs. —— found a great quantity of blood in the bed of her white terrier, which evidently came from him, and was supposed to be vomited.

18th.—Very dull, and refused to eat; with much oppression of the head; was contented only when he could lay his head on his mistress's foot, a thing which he had never done before.

19th.—His lower jaw became slightly dependent. He now took some food, and after many ineffectual attempts, and frequently dropping it, swallowed it; lapped eagerly, plunging the whole of his face into the water; quarrelled with a cat, of which he had been very fond.

20th.—To day I saw him. The lower jaw was paralyzed; the tongue hanging out, and of a leaden hue; the eyes glazed, and of the color of a green glass bottle. He staggered as he walked, and repeatedly fell. Watched some imaginary floating objects, and attempted to snap at them; the eye-lids frequently closing. The breathing was laborious, with a deep choaking noise. He was restless. He knew his mistress, fawned at her feet; attempted to lick my hand on patting him. No howl.

21st.—The deep choaking noise had gradually increased till noon, when he died. He had been unable to crawl from his bed since last evening, but was sensible to caresses until the last moment. Ten minutes before he died, he faintly wagged his tail when his mistress called to him.

The tongue was swollen and livid; the pharynx and larynx were inflamed; and the ramifications of the distended vessels of the trachea were very beautiful; the left lobe of the lungs highly inflamed, but the right lung scarcely affected; the whole of the villous coat of the stomach was highly inflamed, with the exception of a few spots which retained their natural color, and the pyloric orifice choked with straw; the parieties of the duodenum and jejunum were thickened; the mucous coat inflamed, but the inflammation gradually subsided, and was lost in the colon.

V.

Case of Disease in the Head, with the appearances after Death. By HENRY U. ONDERDONK, *M. D.*

Read before the Medical Society of the County of New-York, July 5th, 1814.

The following case, from its peculiar and perplexing symptoms, and the appearances on dissection, will not, I trust, be found unworthy the attention of the society.

June 8th, 1814. Charles Jeffry, aged about 30, by occupation a fisherman, complained of a pain just above the inner corner of the left eye, which he first perceived the day before. He described it as deep-seated, and there was no external mark of inflammation. His eye not unusually sensible to light; his mind apparently undisturbed; his tongue very white; pulse full, corded, and quick, of a very peculiar feel. The heat of his skin was but little increased. He had received no mechanical injury, but thought he had "taken cold" a week or ten days before, while occupied in removing the stakes used in the shad fishery.

He was bled to 16 oz. and took a cathartic powder of jalap and calomel. In the afternoon, his pulse continuing the same as before, he was again bled to 18oz. (ad deliquium), and as the powder had not operated, more calomel was given at bed time; a blister was also applied to the forehead.

June 9. His pulse, which was reduced but little after the blood-letting, had now risen to its former standard. His left eye-lid was somewhat swoln, apparently from œdema, and the adnata much tumefied, but there was no intolerance of light. The tongue as white as before; but the pain over the eye nearly gone. This subsidence of pain seemed to indicate a change in the disease, which was confirmed in the course of the day by one or two slight chills;

and on these accounts I did not venture on any farther depletion, except a dose of [illegible] to quicken the operation of the former medicines. In the evening, a blister was applied behind the ear.

June 10. I scarified the adnata of the left eye,—it discharged only a little bloody serum. The right eye-lid began to swell, but there was no intolerance of light in either eye. He complained of little or no pain. This day for the first he was occasionally delirious. Several smart rigors were noticed.

June 11. The adnata of the right eye began to swell, but the tumefaction was nearly colorless. There was not the least intolerance of light, and both corneæ remained clear. The integuments about the left eye and temple were slightly œdematous. Delirium continued at intervals, but without fierceness; his pulse and tongue the same as on the first day. Dr. Kissam saw him in consultation, and it was agreed to open the temporal artery, but *its* pulsations were very feeble, and not more than an ounce of blood was obtained. A blister was also applied to the back of the neck.

June 12. A prominence appeared upon the left upper eye-lid, which fluctuated indistinctly,—to this a poultice was applied. Other symptoms as before.

June 13. The abscess was opened, and discharged a most offensive dark-colored pus, and its cavity extended into the orbit. As the right eye-lid was more tense, a poultice was applied to it; but it did not afterwards suppurate. The delirium was constant, pulse and tongue as at the commencement of the disease. The integuments of the forehead, temple, and neck, were more swelled, and had a slight erysipelatous appearance.

June 14. Symptoms generally as before. Fearing some internal organic disease, the pil. hydrarg. were administered, two three times a day.

June 15. The scalp had a puffy feel generally on the left side. The integuments of the head and chest were tinged of a yellow hue.

June 16. Yellowness of the breast deeper, and the extremities similarly discolored. A fluctuating tumor appeared on the head, two inches from the incision in the eye-lid, which was opened, and discharged the same sort of matter as the other had; the two communicated under the scalp. It was hoped that the disease might prove an erysipelatous affection, terminating in a general suppuration under the scalp, and a sloughing of its tendinous aponeurosis. The pil. hydrarg. were discontinued, and yeast and water administered every hour.

June 17. Our patient remained much as before; his delirium constant, but never very violent; his pulse retaining its peculiar character; his tongue white as far as could be seen, but he did not understand us when we desired him to show it. The febrile symptoms had at no period run high, and were irregular. His strength had not failed, his appetite had been moderate, and bowels sufficiently regular. At 11 A. M. his breathing became difficult; his pulse and strength sunk rapidly, the former retaining, however, its peculiar quickness. At half past 9, P. M. he died,—ten days from the attack.

In the course of the disease, I learnt that my patient, for five or six years, had been subject to an affection of the head, of which he often complained, but of which I could learn no farther particulars, than that it was attended with dizziness, and relieved by a discharge of "clots of matter" from the nose.

The head was examined ten hours after death. The integuments were much thickened by effusion into their cellular substance, the fluid exhibiting the same yellow tinge as the surface of the skin.

From under the dura-mater, upon the left hemisphere of the brain, about two ounces of a bright straw-colored fluid were evacuated. The dura-mater itself exhibited no marks of disease, but the left pia-mater (or rather arachnoides) was thickened and irregular on its surface, as if studded with lymph, and besides the fluid mentioned, a small part of its surface superiorly was covered with real pus. The cortical substance of the brain, under the diseased pia-mater, was of a dull blue, or livid color. These diseased appearances were only on the superior lateral part of the left hemisphere, they did not reach the occiput, the basis, or the right side. The veins of the pia-mater, generally, were turgid with blood. The divided vessels within the brain oozed blood freely. No other disease was visible in either the cerebrum or cerebellum. The bone was no where affected, the internal surface of the orbitar plate of the os frontis, and the frontal sinus of the left side, were examined, and found free from disease.

After the depleting plan first pursued proved unsuccessful, it was very difficult to discover a single rational indication of cure. The most remarkable symptoms were the state of the pulse and tongue. These, though they led at first to the suspicion of an inflammatory disease, yet afterwards denoted, plainly enough, the existence of some violent irritation, probably internal. But when it is considered that there was no delirium at first, nor phrenitis, nor intolerance of light at any period, and that there was much external disease, it must be evident that no decided indications of practice could be formed. And if the symptoms were perplexing at first, they were not less so afterwards, when delirium might be attributed to the erysipelatous affection.*

It is impossible to determine whether the affection of the brain, or that within the orbit, was the primary disease. Their situations were not correspondent, for the fluid on the brain was effused at the lateral and superior part of the hemisphere, while the basis of its anterior lobe, lying on the orbitar plate of the os frontis (contiguous to which was the external disease), remained sound. From this circumstance also, had the presence of matter been presumed, and its evacuation deemed necessary, it is evident we should have been deceived had we considered the external abscess as a guide to the internal effusion.

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[*] The swelling of the left eye and eye-lid was doubtless owing to that partial resolution of inflammation which accompanies suppuration. The [illegible] of the right eye-lid [illegible]

So far as one case may afford a practical hint, we may learn from the above, that a full, tense, quick, and somewhat frequent pulse, and white tongue, both remaining nearly unaffected by depletions, and unconnected with any general inflammatory symptoms, denote the presence of some irritating cause, probably upon the brain. I have used the term *irritation*, to distinguish this affection from that apoplectic state, with a slow pulse, and stertorous breathing, which is ordinarily produced by effusion of pus upon the dura-mater. Whether the cause of this irritation was the inflamed condition of the surface of the brain, I shall not venture to decide.

It appears also from this case, that inflammation of the pia-mater does not produce phrenitis. That it should arise from inflammation of the dura-mater, which is less connected with the brain, is a singular fact, and will doubtless afford a subject of speculation for the ingenious.

VI.

On the use of Charcoal-Powder, as a substitute for Cinchona.

By R. CALVERT, *Physician to the Forces, Palermo.*

From the Edinburgh Medical and Surgical Journal, January, 1814.

A physician to the Sicilian hospital at Palermo, having hinted to me, that he had prescribed the powder of charcoal in a case of intermittent fever with success, and recollecting myself that burnt rags, soot, and similar substances, have sometimes succeeded in curing agues in England, I determined to try the effects of charcoal in an obstinate case of ague in my hospital. Finding it succeeded in that instance, I have continued to employ it in a variety of other cases. And, was I permitted to form a judgment of its virtues after the short but active period in which I have used it, I should declare it equal, if not superior to Peruvian bark. I subjoin the original case of Dr. Calcagno, the Sicilian physician, wherein sulphuric acid was given, with an idea of liberating carbonic acid, or some antiseptic principle which he thought the charcoal contained. As I was not aware of any such principle to be liberated by the combination, I omitted the acid entirely, and without disadvantage, as will be seen in the second case, which was also the next in order of the cases in which charcoal was employed at this place.

The general effects of this substance seem to be, to take away bitter and disagreeable tastes in the mouth; to allay sickness, wherever there is a tendency to vomit, and sometimes to stop the vomiting, when it has occurred; to promote appetite, and assist digestion. It has some tendency, however, to constipate the bowels; but it neither produces griping nor any other unpleasant symptom. In one instance, indeed, where I prescribed it, immediately after the bloody evacuations had ceased in a dysentery of a week's standing, it appeared to prevent the recurrence of that disorder. In any species of fever, after the natural evacuations by the skin and kidneys have been restored, it appears to preserve them in that state, and prevent the fresh accession of fever.* Whether or not the carbon finds its way into the mass of blood, I will not attempt to decide, but certain it is, that the lips soon lose that milky opaque appearance, so common in intermittents, and gain a deep redness, while the skin is very soon tinged with the colouring matter, if it may be so called, of the carbon. These two last effects, however, soon go off when the remedy is discontinued.

Should further experience confirm the efficacy of this plentiful, cheap, and well known substance, so as to render it a common substitute for Peruvian bark, it will cause a considerable saving to government. But the greatest advantage will be felt amongst the poor.

I have paid no attention to the particular wood from which the charcoal is obtained; the only selection I have made being of the best charred pieces.

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* Might it not have a good effect, during the remissions in the plague?

The most convenient mode of administering it is in the form of bolus, folded in a wafer made of flour, after dipping it in water, as is commonly practised in Roman Catholic countries.

I am, Sir, your most obedient servant,
R. CALVERT, Physician to the Forces.

CASE I. (*Translated from the original Italian.*)

On the 5th July, a young man named GIACHINO COLUMBA, from Cefalu, aged 20, was admitted into this great hospital; by profession a seaman, of a sanguineous temperament, and tolerably well fed. He had been affected three days with a fever, that assailed him every day towards two o'clock P. M. with a sensation of cold, and that afterwards terminated towards morning with a little perspiration, leaving him free from all those troublesome symptoms, such as thirst, headach, and excessive heat, which tormented him during the course of the paroxysm. He assigned no other cause for his complaint than his employment; but said, that a few days before, he lived on the shore of Caronia, near a rivulet*. A vomit was immediately prepared of two grains of tartar-emetic, with a drachm of *aceti-to-ammoniacale*, (acetite of ammonia.) He vomited a quantity of mucous yellow matter. When visited after dinner, the fever was upon him, the cold stage of which, he said, came on at two o'clock as usual. Decoction of elder flowers; broth, but no food.

6th, In the morning.—Apyrexia. Decoction of camomile; half diet. Fever at 12 o'clock; after dinner the fever continued. Decoction of elder flowers; broth, without food.

He was ordered the powder of charcoal in the dose of a scruple every two hours. To drink after it four ounces of water, acidulated with sulphuric acid; to begin at six o'clock in the morning.

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* A situation in Sicily, peculiarly subject to intermittent fevers.

7th, In the morning.—Apyrexia; at 12 o'clock fever. The charcoal was suspended; broth, without solid food. After dinner the fever continued; decoction of elder flowers; broth. At 10 o'clock P. M. powders of charcoal and water acidulated, every two hours, as above.

8th, In the morning.—Apyrexia. Continued the charcoal; half diet, with wine. At 2 o'clock P. M. fever; water, broth, decoction of elder flowers. At 10 o'clock the usual powder, in the dose and manner as above.

9th, In the morning.—Apyrexia; half diet, with wine; after dinner, apyrexia, two doses of the powder, as above; diet with wine and an egg.

10th, In the morning.—Apyrexia; meat and full diet; two doses of charcoal, as above. After dinner, apyrexia; two doses of charcoal as above; diet, an egg, wine.

11th, In the morning.—Apyrexia; two doses of charcoal; meat. After dinner discharged from the hospital perfectly well.

(Signed) Francisco Calcagno.

CASE II.—John Graham, private 20th Light Dragoons, æt. 45, melancholic temperament, was first attacked with a tertian fever about twelve months ago, when quartered near the *Mole* at Palermo, but not a great while after leaving the *Stradone*, a place notorious for producing remittent and intermittent fevers. He states, that he remained about three months in the hospital of the 3d Battalion King's German Legion, during which time he took a considerable quantity of bark; that in a few days after his discharge, the fever returned, though in a slighter degree, and has hung about him every since; that he was admitted into the detachment hospital about three months ago, laboring under an inflammation of the intestines, which caused him to lose a considerable quantity of blood (about 90 ounces); that he recovered and was discharged.

On the 14th June last he was re-admitted with a gonorrhœ and swelled testicles. These complaints had nearly disappeared, when on the 16th July, during the morning visit, he was seized with a very strong paroxysm of the ague. In violence was somewhat interrupted by a dose of opium and the pediluvium. The paroxysm being over, he began to take a drachm of the powder of bark every three hours, low diet, four ounces maccaroni.

17th.—No paroxysm. Continuetur cinchona lancifolia.

18th.—Had a return of the paroxysm at 11 o'clock A. M. with its usual violence. Absente febre, repetatur cinchona lancifolia, ut antea.

19th.—No paroxysm. Continuetur cinchona.

20th.—He took three drachms of bark yesterday, but there being no more in the hospital, he did not get any this morning. At 11 o'clock the paroxysm returned as before. Sumat pulveris carbonis 20 gr. secunda quaque hora.

21st.—No paroxysm. Continuetur pulvis carbonis.

22d.—No paroxysm. Continuetur pulvis carbonis.

23d.—As yesterday. Continuetur pulvis carbonis.

24th.—Continues well. Omittatur pulvis carbonis. Half diet.

27th.—While talking this morning respecting his case, at 11 *o'clock precisely*, the colour was observed suddenly to leave his face, and, when asked what was the matter with him, he said he felt a chillness down his back, as if the fever was about to attack him. He instantly took a scruple of the charcoal powder with a grain of opium, and the sensation went away. Sumat pulveris carbonis 20 gr. ter in die.

August 1st.—Free from complaint. Omitt. pulvis.

Palermo, 1st *August*, 1813.

VII.

Experiments and Observations on the influence of the Nerves of the Eighth Pair on the Secretions of the Stomach. By B. C. BRODIE, ESQ. *F. R. S. Communicated by the Society for the promotion of Animal Chemistry. Read before the Royal Society, February* 10*th*, 1814.

From the London Med. Surg. and Pharmaceutical Rep. October, 1814.

In a paper formerly communicated to this society by Sir Everard Home, and since published in the Philosophical Transactions for the year 1809, some facts were stated, which render it probable that the various animal secretions are dependent on the influence of the nervous system; and this opinion seemed to derive support from some physiological experiments which were afterwards instituted by myself, and in which it was observed, that after the functions of the brain had been destroyed, although the action of the heart continued and the circulation of the blood was maintained as under ordinary circumstances, the secreting organs invariably ceased to perform their office.

It has been attempted by former physiologists to determine how far the nerves are necessary to secretion; but there are considerable obstacles in the way of this inquiry; and no observations, that have been hitherto made, appear to throw a great deal of light on the subject. The only method which can be devised of ascertaining, *by* direct experiment, whether the nerves are really necessary to secretion, is that of dividing the nervous branches by which the glands are supplied.

But this, with respect to the greater number of glands, is an experiment impossible to perform; and, with respect to others, cannot be executed without so much disturbance and injury to the other parts, as must render it extremely difficult to arrive at any positive results. Perhaps in future investigations some circumstances may arise, which will enable us to determine more satisfactorily this important physiological question.

In the meantime, as the labors of physiologists have hitherto contributed so little to this purpose, any facts that tend to its elucidation may deserve to be recorded; and I am therefore induced to lay before the society the following experiments, which afford one example of a secretion being dependent on the influence of the nerves.

The stomach derives its nerves principally from those of the eighth pair, or the par vagum; and the same nerves, as they assist in the formation of the semilunar ganglions, contribute to the supply of the rest of the alimentary canal, particularly of the small intestines. In an inquiry which I had formerly instituted, respecting the functions of the stomach, I divided these nerves in the neck of a dog, for the purpose of ascertaining the influence which they possess on the secretion of the gastric juice; but I was disappointed in my expectation, since the animals always died in consequence of the disturbed state of the respiration which the injury of the nerves occasioned, before there was opportunity of ascertaining the effect produced on the process of digestion.

I had formerly ascertained, that in a dog poisoned by arsenic, there is a copious secretion of mucous and watery fluid from the mucous membrane of the stomach and intestines, which are in consequence found after death completely and preternaturally distended; and it occurred to me, that although I could not ascertain the effect of the division of the nerves of the eighth pair on the natural secretions of the stomach, it might be possible to ascertain the effect on a secretion thus artificially produced. With this view I instituted the following experiments.—

Exp. 1.—The nerves of the eighth pair, with the accompanying sympathetic nerves, were divided in the neck of a dog, and immediately afterwards ten grains of arsenic were inserted into a wound of the thigh. The breathing became laborious, as is usual where these nerves are divided, and afterwards the same symptoms took place, as commonly arise from the poison of arsenic, with this difference, that there was no discharge of the fluid either from the stomach or intestines. He died at the end of three hours and a half. On dissection, the stomach was found to contain only food and feces, there being none of the mucous and watery secretion usually met with in an animal that has been killed in the same manner. The mucous membranes of the stomach and intestines were highly inflamed.

Exp. 2.—The experiment was repeated on another dog. He died at the end of nine hours; and on dissection the stomach and intestines were not found to contain any mucous or watery fluid. The mucous membrane was inflamed.

Exp. 3.—A dog immediately after the division of the same nerves of the neck, was made to swallow two ounces of a saturated solution of white oxyde of arsenic in water. He died at the expiration of three hours. On dissection, the stomach and intestines were found slightly inflamed, and they contained no mucous or watery fluid.

In these experiments the animals died from the application of arsenic, and the poison produced the usual symptoms, with the exception of copious mucous secretion, which takes place in other instances, from the stomach and intestines. The obvious conclusion was, that this secretion was prevented in consequence of the nervous influence having been interrupted by the division of the nerves of the eighth pair; but as the injury always induces a disturbed and laborious respiration, it was desirable to ascertain how far this circumstance might have operated towards the production of this effect, and I therefore repeated the experiment; but with this difference, that the nerves were divided in such a way as not to interfere with the functions of the lungs.

Exp. 4.—Having made an incision into the abdomen of a dog, immediately below the short ribs, I divided, by means of a bistoury, the stomachic ropes formed by the nerves of the eighth pair, where they are situated on the œsophagus, immediately above the cardiac orifice of the stomach. The wound was closed by sutures. The respiration was not in the least disturbed, but was performed frequently, and with as much ease as under ordinary circumstances. The animal was afterwards inoculated in the thigh with the white oxyde of arsenic; and he died in a few hours after the application of the poison, with the ordinary symptoms, except that there were no fluid evacuations from the stomach or intestines.

On dissection, the mucous membrane of the stomach and intestines was found inflamed. There was no watery or mucous fluid in the stomach or small intestines. There was a small quantity of mucus in the colon.

The result of this being the same as that of the former experiments, we may conclude that the suppression of the secretions in all of them was to be attributed solely to the division of the nerves: and all the facts which have been stated sufficiently demonstrate, that the secretions of the stomach and intestines are very much under the control of the nervous system. We cannot, indeed, venture to deduce from them any positive conclusions respecting the necessity of the nervous influence to the secretions in general; but as forming one link in the chain of an interesting, but difficult, physiological investigation, the circumstances which have been mentioned, may, perhaps, be considered as possessing some value, and as worthy of being recorded.

It is proper to observe, that I have attempted to pursue the investigation, so as to ascertain the effect produced on the process of digestion, by the division of the stomachic ropes on the termination of the œsophagus; but various circumstances, which it would be unnecessary to enumerate, have prevented my proceeding in the inquiry, and seem almost to render it impossible to make any observations on this subject.—*Phil. Trans. Part I. for* 1814.

VIII.

On Oil of Turpentine, &c. in Epilepsy. By Edward Percival, M. B. Dublin.

From the Edinburgh Medical and Surgical Journal, July, 1816.

Sir,—I beg leave to communicate to your valuable Journal, three cases of epilepsy, exhibiting the remedial effects of oil of turpentine in that singularly untractable disorder. Perhaps some of your ingenious correspondents may already have made trial of the same medicine internally, or may be able to refer me to some published account of its efficacy in epilepsy. My own search for information on this subject, which has in truth been less diligent than I could have wished, has hitherto been fruitless; and I am consequently ignorant whether my experiments have been anticipated by any preceding medical writer.

I should hesitate on the propriety of promulgating a method of remedial treatment whose success has been by no means complete, were it not that a certain degree of relief has been obtained by it, in a very formidable malady, and a ray of light afforded which other practitioners may extend and improve to more perfect success. The cases of epilepsy, in which I have employed the oil of turpentine internally, occurred to my professional care in the Hospital for Incurables near the city of Dublin. The subjects are females, and the disease was of great severity and some duration in each of them.

Elizabeth Wall, aged 20, of light complexion, inclining to florid, short neck, and full habit, has been subject to severe paroxysms of epilepsy for the space of four years. The first occurrence of the malady succeeded a violent blow by a battledore on the crown of her head. The epileptic paroxysms have rapidly increased in frequency and severity. At the time of her admission to the Hospital for Incurables, in March, 1812, the fits usually occurred twice or thrice daily. The most protracted paroxysm, or rather unremitting succession of paroxysms, came on in the afternoon, and held the patient in alternate convulsions and fixed spasms of the lower extremities, the abdominal muscles and the fauces, for the space of four, five, and even eight hours. During a portion of this time the patient appeared to be perfectly insensible, but for the most part she exhibited signs of acute suffering. On emerging from these severe fits, she experienced for one or two hours great lassitude, and frequently fainted. During the course of her disorder, however, she did not suffer any loss of flesh; and her appetite was by no means deficient, though her digestion was weak. Her bowels were habitually costive, and the catamenia had been occasionally irregular.

The first remedies that I employed for her relief, were active purgatives, with calomel or the blue pill, until her mouth was slightly affected; then opium in full doses, preserving, at the same time, a free passage through her bowels. Afterwards I employed valerian, camphor, æther, and other remedies of the stimulating antispasmodic class; all of which were perfectly inefficacious. Blisters applied to the back and abdomen were attended with temporary benefit. The fits of epilepsy still continued frequent, severe, and protracted.

On the 18th of April, I directed two drachms of oil of turpentine to be diffused, in the way of emulsion, by syrup, in a pint of mint-water, an ounce of which was prescribed to be taken every four hours. On visiting my patient two days afterwards, I was agreeably surprised at learning that she had experienced no return of her convulsions after the first dose of her medicine. Neither I nor any of her attendants had prepared her to expect extraordinary efficacy from the draught, which she conceived to be peppermint water, and described to operate as a grateful cordial to her stomach. On the second day the catamenia appeared, which had been previously suspended for six or seven weeks. She continued the use of the medicine for the space of a fortnight, during which period, her digestive organs were restored to a healthy tone, her animal spirits and her looks were greatly improved, and her mental faculties, which had been obtused and bewildered by the late severity of her disorder, recovered their natural energy.

From the date above mentioned, to the latter end of October, my patient continued free from any attack of convulsion or insensibility. But she had occasional cramps in the muscles of her abdomen, and wandering pains of the stomach and bowels. These ailments were relieved by frequent purgatives, and warm fomentations. The catamenia continued regular and satisfactory.

On the 4th of November I was informed that, during the preceding week, Wall had experienced three slight attacks of her former convulsions; I therefore directed for her half an ounce of oil of turpentine, to be diffused by syrup in a pint of mint-water, of which she took an ounce every four hours. The effects of this remedy were at first as decisive as before; but having neglected the state of her bowels, she complained to me, on the 14th of November, of headach and lassitude, which were succeeded by two mild epileptic fits on the same day. A few grains of calomel and cathartic extract removed a large load of feces, and the attendant symptoms of pain and restlessness. She continued the terebinthinate mixture for ten days longer, and, until the 11th of December, experienced no return of the epileptic paroxysm. A slight fit on that day induced me to renew the turpentine draught, and to increase its dose. An emulsion was directed, with an ounce of the ol. terebinth. in a pint of mint-water, of which two table spoonfuls, as before, were prescribed every four hours. From that period to the present, (February, 1812), she has continued free from any acute attack of epilepsy, being occasionally, however, subject to cramp or spasm of her abdomen. At these times she commonly reclines upon her bed, and, if seized suddenly, will even fall, but never loses her recollection or sensibility. Her appetite, digestion, and sleep, are natural, her strength and spirits good, and her intellect perfect.

Jane Reid, aged 30, of low stature, plethoric habit, short neck, and florid countenance, has been subject to epileptic attacks of considerable severity, for the space of 14 years. They were at first excited by the alarm of seeing a man fall suddenly into convulsions, in one of the streets of Dublin. Her fits of epilepsy occur very irregularly, sometimes twice or thrice daily, at other times only twice in the week; these attacks usually subsist for about ten minutes, and the convulsion, though not very considerable, is always attended with perfect insensibility. Her bowels are remarkably torpid, her tongue generally foul, her face flushed, and she complains much of headach. The catamenia are tolerably regular and satisfactory. During the last eighteen or twenty months, her intellect has been much disturbed, and she is subject to alternate fits of dulness and frenzy. Active purgatives have relieved every pressing symptom, excepting the original disorder. With Reid, as with Wall, I made trial of all the usual antispasmodic and antiepileptic remedies, without the slightest benefit. On the 18th of April, I directed for her an emulsion with three drachms of oil of turpentine, half an ounce of syrup, and a pint of mint-water, an ounce of which she was desired to take every four hours. Her epileptic fits immediately ceased; she continued the medicine for a fortnight; when her intellect was perfectly restored, her spirits revived, and her looks greatly amended. The gratitude and astonishment which this poor woman manifested on receiving so great benefit to her health, were expressed in the most lively manner, with tears of joy. I may add, that in this, as in the preceding case, no expectations were held out of any sudden or extraordinary amendment.

About the 20th of October, Reid desired to have her terebinthinate mixture renewed, as she informed me, that for several weeks she had been troubled with uneasiness, and threatenings of a return of her malady, whilst in bed, although she had had no distinct paroxysm since the 18th of April. The medicine was accordingly renewed; on which the catamenia appeared after a postponement of ten days or a fortnight beyond the proper period.

On the 14th of November, Reid had three fits of epilepsy in the course of 24 hours. On inquiry, I found that her bowels had been neglected, and were highly loaded and constipated. This accumulation being removed, she returned again to the turpentine emulsion, in the dose of one drachm of ol. terebinth. taken every four hours. From that period she continued entirely free from her epileptic fits until the beginning of December, when they began to recur every six or eight days, but in a much slighter degree than formerly. Her faculties became gradually much disturbed, and she was alternately dull and frantic, without any luminous intervals. On the 28th of December, and for some preceding days, she was confined by a strait-waistcoat, being perfectly maniacal.

Deeming the present a favorable opportunity for making trial of a large dose of fox-glove, which had been frequently represented to me as a radical cure for epilepsy, I directed, in concurrence with my friend and colleague Dr. Litton, that a decoction should be made of two drachms of the dried leaves of digitalis in six ounces of water, one half of which was given without delay, and the remaining half two hours afterwards. No sensible effect of any kind followed the exhibition of this medicine. The patient continued maniacal, had a natural evacuation of feces and urine, and showed no signs of nausea, languor, or enfeebled circulation. A few days afterwards, the same quantity of the dried leaves of digitalis was infused in the like proportion of water, and when cold was administered as before. It produced no apparent effect whatever. On the following day, and repeatedly afterwards, she had returns of the epileptic paroxysm, but improved gradually in the natural circumstances of bodily and intellectual health.

On the 31st of January, 1813, it was reported to me that, for several preceding days, she had severe epileptic fits, and was frequently maniacal during the intervals. At the time of my visit to the hospital, she was calm and collected, her pulse was natural, her countenance somewhat anxious and variable; but her evacuations by stool had been copious, and her sleep was observed to have been sound and uninterrupted. Being solicitous to give the fullest trial of the efficacy of digitalis in so hopeless a case, I directed three drachms of the dried leaves to be decocted in six ounces of water, and to be given, the one half immediately, and the other after a lapse of two hours. Both of the draughts were duly administered, when, some time afterwards, nausea, vomiting, sweating, and at length purging, were induced to a considerable extent, and for several hours. On the following day she had two regular fits of her accustomed epilepsy, which have since recurred as frequently as they were accustomed to happen before the exhibition of the oil of turpentine.

Margaret Harrison, æt. 25, of middle stature, and plethoric habit, became subject to epilepsy eight years ago, from a sudden alarm. The paroxysm of her disorder occurred chiefly at night, when she had usually two or three mild fits, each enduring about a quarter of an hour. She was admitted to the hospital for Incurables in the summer of 1812. During the four preceding years she had experienced no menstrual discharge. Her general health and strength have appeared good, her appetite rather voracious, but her intellect has been obtused, approaching to fatuity. July 15, 1812.—I directed for her pills of myrrh, steel and aloes, which, in the course of a few days, induced a return of the catamenia. Her understanding consequently improved, her conduct became more regular and amenable, yet her epileptic fits recurred without any mitigation. She commenced the terebinthinate mixture on the 4th of November, in the proportion of three drachms of ol. terebinth. to a pint of mint-water, which had an immediate effect in abating the frequency and duration of her fits. She became more lively, and for the first time replied to a query of mine, by saying that the medicine had done her great service.

Until the 4th of December her fits of epilepsy had nearly disappeared, when, without any manifest cause, they began to recur in a mitigated and less frequent degree than formerly. I directed for her a mixture, with one ounce of oil of turpentine in a pint of mint-water, of which she took two table spoonfuls every fourth hour, with immediate and decided benefit. On the 29th of the same month it was reported to me that she had relapsed to her former epileptic habits; though her fits were somewhat less frequent, and certainly more gentle than before the use of the terebinthinate mixture.

On the 31st of January 1813, I directed a decoction of two drachms of the dried leaves of fox-glove to be administered in divided doses, with as little interval as possible. The effect of this medicine was, extreme nausea, vomiting, and subsequently purging, which continued for the space of eight or ten hours. The fits of epilepsy, however, began shortly to recur as before, with less violence than previous to the use of terpentine, but apparently unmitigated by the administration of digitalis. Her fatuity continued without interval or abatement,

It is essential to remark of the three foregoing cases, that the free use of the turpentine, even to the amount of several drachms taken in the course of the day, produced no distressing symptom, either of the urinary organs or of the stomach or bowels; on the contrary, it proved a grateful cordial, strengthening the powers of digestion, and gently promoting intestinal and renal action. I had no reason to suspect the presence of worms in either of the cases; nor was it discovered that any were voided during the use of the oil of turpentine. The only specific action of that drug was apparently emmenagogue; a hint not undeserving of application to other cases.

I purpose hereafter to give a more full and extended trial of the efficacy of this remedy in epilepsies of various kinds; and may therefore again trespass on your indulgence, by further communications on this interesting subject.—In the meantime, I remain, &c.

CONCLAVE CADAVERIS.

I.

Examination of a Case of Fracture of the Pelvis, communicated by DR. JOSEPH M. SMITH, *of New-York.*

On Saturday last, 8th January, 1814, E. S. aged 23, boatman, in the act of jumping from the bow of a sloop deeply loaded, which was slowly approaching a vessel that lay at the wharf, slipped his foot, and lodged between the gunwales of the two vessels; by which accident the pelvis was violently jammed. Being extricated from this situation, he was carried to a store in the neighborhood; where I first saw him, in company with Dr. Baldwin. Having partially recovered from the shock the nervous system sustained, he complained of intolerable pain about the pelvis, and an inclination to make water; but was unable to void a drop.

This not being a convenient place for an examination, we directed his friends to convey him to his residence in the Bowery Road. After he was laid in bed, we proceeded to a manual examination of the bones of the pelvis, which we presumed were fractured; and, indeed, which a by-stander at the time of the accident, informed me, he heard distinctly crush. The sacrum and pubis being the parts which came in contact with the gunwales, were first examined; but with our whole attention directed to this object, no fracture could be detected. The illia and thigh bones were in their natural condition. Turning the patient on his side occasioned great pain, as did also raising him in bed. The inferior extremities were under the control of the will; they could be rotated without much increase of pain, but flexion excited great distress. No marks of external violence were to be seen, except a slight abrusion of the skin on the anterior part of the penis, and on one of the thighs. The patient being plethoric we bled him to the amount of twelve ounces, and ordered a dose of the sulphate of soda; directing at the same time the application of tepid fomentations to the injured parts. The following day (Sunday) we found the abdomen tumid, more especially the hypogastric region, which appeared to arise from retention of urine; the patient having passed none since he received the injury. No distinct circumscription, however, indicating a distended bladder, was evident. The scrotum was distended and somewhat inflamed. The pain he now suffered, was referred principally to the region of the sacrum; he complained, however, of considerable pain at the pubis, especially when the part was pressed by the hand. The inclination to evacuate the bladder was extremely urgent. The pulse being full and strong we again bled him, and ordered the use of enemeta; by which means his bowels were kept soluble. In a short time after, two physicians saw him in consultation, and it was agreed, that an attempt should be made to relieve him by the catheter. Accordingly the operation was immediately instituted. Upon passing the catheter down the urethra to the perineum, a small quantity of blood escaped from the urethra by the side of the instrument. At the neck of the bladder the passage of the catheter was arrested; and after several trials the operator declared its introduction to be impracticable. About half a gill of bloody urine ran off through the catheter. After the catheter was withdrawn the urine began to flow involuntarily in small quantities, and continued so until his death. Such medicines were ordered as are calculated to obviate inflammation.

On Monday the circulation in the extremities became languid, and the face pale. The pain continued violent about the sacrum and pubis; the belly was more tumified, and the scrotum considerably enlarged.

On Tuesday the pulse became imperceptible—respiration interrupted and quick, and he lay in a comatose state until 11 o'clock, A. M. when he expired.

From the manner the injury was inflicted, it was suspected that much greater mischief was done than was apparent. This suspicion was confirmed by the facts disclosed on examining the body after death.

Jan. 13th, 1815.—Dissection by Dr. Mott. On cutting through the integuments of the abdomen in the direction of the linea alba, a large quantity of extravasated blood appeared in the hypogastric region, and extended into both groins. The abdomen, when opened, shewed no marks of extensive peritoneal inflammation; the bladder was adhering firmly to the parietes, and a thickened substance connected it almost as high as the umbilicus. The peritoneum covering the fundus of the bladder, rectum, and as it extended upon the lumber vertebræ was of a dark bluish black color, and easily torn with the finger or nail. Upon cutting out the bladder, it was larger than the natural empty bladder, and contained a small quantity of urine,—it was about six times thicker than the bladder when sound, and in a state of gangrene, and emitting an offensive smell. It was easily inflated with a blow-pipe after it was cut out.

Passing the hand around the brim of the pelvis, the pubis was found fractured about an inch distant from the symphisis on each side, and the piece a little drove inward. On detaching the penis and muscles on the outside, it could be moved a little; on examining still further, the ramus of each ischium was also fractured, and when the knife was passed through each thyroid hole, and the soft parts completely detached, the piece was without much difficulty taken out. A piece of the body of the left pubis, where it joins with the illium, about an inch in length, was next removed. The scrotum and penis, were of a dark livid colour, and the cellular substance filled with urine. The scrotum was four times its natural size.

The infiltration of urine into the cellular substance of the scrotum and penis, no doubt was occasioned by the laceration of the urethra; but at what part it was ruptured, our time and the situation of the body would not permit us to ascertain.

II.

Examination of a Case of supposed Hepatitis, communicated by T. W. Blatchford, *Student of Medicine, and Resident Physician in the New-York State-Prison.*

G. T. aged 46, of a phlegmatic temperament, was admitted into the Hospital about fourteen months since. He complained of pain and considerable swelling of the right side, in the region of the liver.

A few months had now elapsed when he was attacked with pain in the region of the stomach, and a constant discharge from that organ of a black dirty substance, of a thick consistence, which the physician, then in attendance, denominated MORBUS NIGRI; this continued for three or four months, when the symptoms preceding this discharge again returned.*

About the commencement of August, his pulse was small, and his respiration difficult. His stomach was much disordered. He was ordinarily satisfied with two meals in the week, and these composed of either raw turnips, carrots, parsnips, cabbage, or apples. He generally refused any kind of animal food; but one day he desired the lungs of a lamb or sheep, which accordingly were procured; he had half an ounce immediately prepared, which he took and retained upon his stomach; the remaining part he salted down, and occasionally had a piece prepared; this one lasted him amply for two weeks; his stomach then rejected it.

His drinks were, when it could be procured, a little cider, but ordinarily a half pint of milk-punch per day, together with a little gin. His bowels were remarkably costive, going from ten days to a fortnight without a discharge, and then it was usually assisted by medicine; the discharge was thin and remarkably white. A few weeks previous to the termination of his complaints, an ungovernable diarrhœa ensued, which ceased only with his breath. A thick and muddy sediment was deposited in his urine, and he complained of great pain in the discharge of it. The colour of his skin was of a whitish yellow, resembling a corpse more than any thing possessing animation. The pain in the region of the liver, and in the right shoulder, was constant. His levity was astonishing. It was but a few weeks before his death that he complained of much weakness.

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* I regret not being able in a more particular manner to learn the history of the case; but that part collected, I believe, we may rest assured is authentic.

The appearances upon dissection were the following.

The lungs were much diseased; adhesions to the pleura and the diaphragm were very extensive—also very large and numerous tubercles were found. The heart was sound. The pericardium, however, contained rather more fluid than natural. The liver being removed, and various sections of it made, was found perfectly sound, and no ways preternaturally enlarged. A large tumor occupied full seven eighths of the stomach. The whole length of the stomach was five inches, its breadth three and a half. The tumor occupied the upper portion of the stomach, leaving the pylorus perfect; the upper part of the tumor was hard, much resembling muscle; the under part was softer and of a lighter color. It was then divided, two thirds of it were solid, the other part was filled with a thick yellowish pus, the sack was separate from the stomach or the other part of the tumor. The portion of the stomach appropriated for the food, was not larger than a hen's egg, a tube led to it along the upper side of the tumor, making a preternatural cardia, or more properly resembling an elongation of the œsophagus. In the mesentery were found many tumors containing pus. Nothing preternatural was observed upon the other viscera.

III.

Examination of a Man said to have died of Old Age. By HENRY U. ONDERDONK, *M. D.*

H. H. aged 67, died, May 15th, 1814, of old age and debility. Has had no fit of sickness for a long period.

On examination both lungs were found of healthy structure, except a few tubercles. Right lung had some adhesion, and left lung was universally adherent by a soft cellular structure. Heart natural, but rather small.

Liver had some similar adhesions to the diaphragm, and also to the spleen. A portion of the transverse arch of the colon was seen lying above the stomach, but this was probably a natural irregularity, and not a hernia; for the mesogastrion was deficient, or rather there was a peritoneal covering over the portion of colon, reaching from the stomach to the spine. The pancreas laid above this portion of the colon. The stomach was rather small. A fold of the jejunum, and another of the ilium, (some distance below), adhered to the peritoneum about the caput coli; and this was easily rent, so as to give discharge to the fæces. The descending colon was much contracted.

Between the arachnoides and pia-mater, was a very great effusion of serum, so as to separate them at the folds to half an inch distance. The left ventricle contained a little fluid, and the right, about twice as much, say half an ounce.

The femeral arteries were ossified.

IV.

Examination of a Case of Hydrocephalus Externus. By DR. NEHEMIAH BRUSH.

A. B. aged fourteen months, after a fall on the head, was seized with symptoms of hydrocephalus. He was treated diligently with the general and topical means usually employed in that disease, but died the 17th day after the injury.

Assisted by Dr. Mott and Dr. Ives, I examined the head six hours after death. On removing, by a transverse section, the upper part of the cranium, and opening through the dura mater, from four to six ounces of water were discharged from between it and the brain. Large watery, or serous effusions were also observed between the hemispheres and convolutions of the brain. On opening into the lateral ventricles, they were found to contain about an ounce of a similar fluid. The coverings and the substance of the brain exhibited a natural healthy appearance.

V.

Examination of William Twaits, esq. the Comedian. By the EDITORS.

Mr. Twaits had labored under a very severe asthmatic affection, and his voice was almost entirely lost. The day after his death, Dr. M'Lean, who had attended him, requested the editors to assist in the examination.

The stomach was contracted at its smaller extremity, and several other contractions were observed in the small and large intestines, but they were of no importance. Gall-bladder large, and full of yellow bile. The rest of the abdomen natural.

The lungs were adherent to the pleura costalis universally, and when cut into, exhibited a compact texture; one very small vomica was noticed. The heart natural. Cartilages of the ribs considerably ossified.

The œsophagus had a small contraction near its upper part, which, however, gave way to a finger introduced. The cartilages of the larynx were partly ossified, and both they and the soft parts somewhat thickened; the lining membrane rough, as if from chronic inflammation. Sacculus laryngis of the right side entirely obliterated, that of the left side not so completely effaced. The trachea was very large and the muscles of the voice very strong.—Were not these morbid appearances of the larynx produced by the frequent and powerful efforts of the voice in his public exercises?

VI.

Examination of a case, in which the left arm was torn from the body, accompanied with a fracture of the Cervical vertebræ. By VALENTINE MOTT, *M. D.*

As the Steam Boat Nassau was returning from Long Island to New-York, the chief engineer Lewis Rhoda, not being pleased with the movement of the machinery, as she was coming into the dock, went to examine it. The engine being still, he reached his arm between the *balance beam and shackle* bar, to adjust or examine some part of the machinery, and while in this situation, calls out to one of the men to let go, by which the engine was set in motion. The starting of the engine being much more sudden than either of them anticipated, caught Rhoda's arm, and tore it from the body, except a little fragment of muscle which was cut with a pen knife. At the moment the engine started, or after his arm was torn off, something caught his cravat, and dragged him head long among the works, by which the lower jaw was fractured near the posterior angle, with a wound about two inches in length, and the neck very much injured.

Dr. Birch being upon the dock at the time, went on board and with his pen knife, cut a little fragment of muscle and his coat, by which the extremity was removed. I arrived in a few minutes and found him lying on a mattress on deck, with a pale and ghastly countenance, exclaiming that he was a dead man. Great fears were entertained by many present, that he would soon bleed to death; of which we however assured them there was no danger. I then went below to examine the arm, and found the bone not out at the shoulder joint as was first believed, but torn off about the insertion of the deltoid muscle, with a little obliquity of fracture, and only one small splinter, which was attached to the upper part or stump.

We removed him as soon as possible, to the house of a friend a short distance from the boat, in order to have him more comfortable and make it more convenient to do what was necessary. After carefully examining the stump we concluded to amputate it, and not take the arm off at the shoulder joint, which at first seemed almost indispensable. As there was no room to apply the tourniquet upon the arm, and fearing that the restlessness of the patient would not make it safe to trust to compression above the clavicle, I took up the artery in the axilla, where it was felt pulsating; presuming that there the artery was sound, and that the ligature would be safe. I then amputated the stump in the presence of Dr. Birch, Dr. Seaman and a number of other medical gentlemen, so that the incision through the muscles was made close to the ligature, and the bone sawed through, from one to two inches below the joint. The parts that were cut through appeared perfectly sound and natural, not the least laceration of muscle or extravasation of blood to be seen. After securing several small arteries, the stump was dressed in the usual way.

The wound on the right side of the face was next examined. It extended across the lower jaw near the posterior angle, and terminated in the anterior part of the parrotid gland, about two inches in length. Upon introducing the finger into the wound, it passed readily into the mouth, and one of the molares teeth being loosened by the fracture of the lower jaw near the posterior angle, was easily removed through the mouth. The wound was drawn together with adhesive plaister and dressed in the usual way.

After this he was removed to bed, and his breathing which at first seemed very little affected, now became quick and laborious, appearing to be performed altogether by the diaphragm. It was now discovered that he was unable to move himself in the least degree, and upon examining his superior and inferior extremities they were found entirely useless, though when pinched he complained of pain, but the power of motion was lost. From these symptoms we did not hesitate to conclude that there was a fracture of the cervical vertebræ, of which the poor patient seemed conscious, for he was continually saying that his neck was broke. He continued very restless, and his breathing more and more laborious, and died in the full possession of his senses, three hours and a half after the receipt of the injury.*

Dissection six hours after death. The neck appeared much thicker than natural, but shewed no marks of external violence. On making an incision into it at the posterior part, in the course of the spine, a very large quantity of blood was extravasated among the muscles and discharged in a fluid state (say 10 or 12 ounces) which very much embarrassed us in the examination. Dr. Ives and myself after a good deal of difficulty removed the cervical vertebræ; upon inspection, the spinous process of the third and fourth vertebræ was found fractured, and depressed below the level of the other vertebræ, so that some compression of the spinal marrow must have been produced immediately. The compression however must at first have been trifling, for upon macerating and cleaning the vertebræ but very little irregularity was discoverable upon looking through the spinal canal. It soon however increased, in consequence no doubt of the gradual extravasation of blood in the spinal canal and the theca vertebralis; so that before his death, there was a complete loss of voluntary motion in all the parts below the neck. His voice from the first was very much injured, being able only to speak in a hoarse kind of whisper.*

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* I have lately attended a patient who died in forty-eight hours after a fracture of the cervical vertebræ. He was said to have been struck upon his neck, and knocked out of the chair upon the floor.—On examination no ecchymosis or mark of violence appeared upon the neck, but upon making an incision through the muscles, a larger extravasation was found about the spinous processes generally, but greatest about the fourth and fifth vertebræ.—As proof was not produced at the Inquest, that he had been struck, and if it had, would it not have been most safe to have attributed the fracture to the fall from his chair, (he being addicted to intoxication) particularly as there were no marks of external violence.—Can a person have his neck fractured by a blow, while covered with his clothes, without leaving any appearance of bruise or extravasation ? is a question, that may perhaps be worthy the attention of the cultivators of Legal or Forensic medicine.

The arm and stump upon being examined, exhibited a different appearance from what is generally seen in extremities that are torn (as is generally expressed) from the body; this was more particularly the case however with the arteries and veins. The muscles were torn from the osbracchii near the elbow, and contracted about the stump in a large and irregular bundle; the osbracchii was exposed for 5 or 6 inches above the joint of the elbow, except on the posterior and inner part, when a portion of the triceps extensor cubiti muscle and ulnar nerve extended half the length of the bone. The ends of the muscles and nerves had a very ragged, irregular and lacerated appearance. The extremities of the arteries and veins had quite a different look. The artery of the stump was extracted about two inches from the extremities of the muscles, and upon being drawn out, instead of the ragged fimbriated appearance, which is generally described as taking place in lacerated arteries, its extremity was as regular and smooth as if divided transversly by a keen cutting instrument. It had not a patulous or open mouth, as we generally see when arteries are divided, but it was so contracted as nearly to obliterate its calibre altogether; and appeared almost like a solid cord, for an inch from its extremity. About an inch from the end of the artery, the blood effused in the cellular sheath of the vessels, had formed a coagulum which pressed upon the artery and completely prevented the flow of blood; the artery for more than an inch above the coagulum was so much contracted that it exhibited but a small diameter. It was above this contracted part that the artery could be felt pulsating, and where, of course it was cut upon and taken up before the amputation of the stump. The veins had their diameters very much diminished for more than an inch from their divided extremities though much less in proportion than the arteries. The same appearances were observed by John Bell of Edinburgh, in the case of a miller who had his arm torn from the body.*

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* Our readers will readily perceive a striking illustration of the doctrine of the late celebrated Dr. Le Gallois, in these two cases.—See our Review of his experiments on the Principle of Life, in the present number.

The vessels of the arm exhibited the same appearances, but in a much less degree.

The flow of blood from the extremity of the artery must have been prevented by the muscular contraction of the artery itself, aided in some degree by the pressure of the coagulum within the sheath of the vessels. The canal of the artery being scarcely pervious for about two inches from the extremity, would of itself arrest the flow of blood, when aided by the contraction and pressure of the surrounding muscles, without the assistance of the coagulum. No coagulum was found plugging up the end of the artery of a conical form, and adhering to its sides, no ragged or fimbriated extremity of artery to aid in suddenly arresting the flow of blood. Might not the simple contraction of the artery in this case, of itself, have been quite sufficient for the purpose?

* See Dr. Onderdonk's memoir, Medical Magazine, 1814, case 6, p. 14[illegible].

VII.

Examination of a Young Woman, in whom the left Ventricle of the Heart was found ruptured. *By* VALENTINE MOTT, *M. D.*

On the 16th of 5th month, 1814, I was requested by the Coroner to examine the body of Betsy M'Bride, aged 22 years, who had been found dead in bed in the morning. It appeared that she had led a very irregular and profligate life, being a courtezan.

She was found lying upon the right side, with the knees drawn up, in the most natural and easy posture of sleep, and to most persons, at first sight, would have been thought so. Her countenance was rather purple, and the neck, and one side of the face, seemed a good deal suffused with blood. She had every appearance of having enjoyed a good state of health, and was a good deal inclined to obesity.

On opening the abdomen, the viscera appeared generally to be in a healthy state, except the liver, which was rather larger, and of a pale whitish colour. It adhered very generally to the peritoneum lining, the parietes of the chest, abdomen, and diaphragm, by the most beautiful arrangement of coagulable lymph, of an inch or more in length, and from the size of small fine shreds to an inch or two in width.

The chest was next examined, and upon raising the sternum from the diaphragm, and cutting into the pericardium, a large coagulum of blood presented itself, which was covering the heart on every part, so that it completely filled the cavity of the pericardium. This was removed, and amounted to from eight to ten ounces, with about two ounces of serum. The heart appeared of the usual size, and very fat; upon lifting up the apex of it, the source of the blood was immediately discovered to be from an opening about half an inch long, in the upper part of the left ventricle, of an irregular lacerated look. Around the opening the parietes were considerably thinner than natural, and upon examining with the fingers attentively, there could be discovered a fluctuation about an inch on one side of the opening; a few flakes of a cheesy like substance were discharged from the opening upon pressure. The pericardium had generally a natural look, excepting a space about the size of a dollar, or a little larger, opposite the opening in the heart, there were strong evidences of inflammation, about the size of a six-pence, and it adhered firmly to the upper part of the left ventricle. That part of the aorta which is generally said to be within the pericardium, shewed, on one side, some vestiges of inflammation. These were the external appearances which the heart exhibited.

The heart, pericardium, and large vessels belonging to it, were removed from the body to undergo a more minute examination. The right auricle being opened from the inferior cava, exhibited a natural appearance. Continuing the dissection into the right ventricle, from the auricle, there was nothing unnatural to be seen. The left auricle was next opened from one of the pulmonary veins, and then the left ventricle; both of which appeared generally natural. In the left ventricle, however, about an inch from the opening of the aorta, on the left side, and immediately under the left carnea columna, an opening of an eliptical form was discovered, sufficiently large to admit the end of the little finger. It was smaller than the external opening, and directly opposite; both openings communicated with an abscess in the parietes of the left ventricle, about the size of a small hen's egg. It was to the upper part of the thin covering of this abscess that the pericardium was attached. The aortal, pulmonary, and ventrical valves were all natural.

As might be expected, in such cases, we could not learn any thing minute or very satisfactory as to her health previous to the accident. She appears to have shown no indisposition, except a pain in one of her arms, and one person stated that she had complained for a fortnight of some pain in her chest—both of which might have been rheumatic, as she had for some time been affected with it. However humorous and curious it may seem, her lover, I am correctly informed, deserted her the day before her death, which for some hours affected her so much, that she was seen sobbing and crying by the family. This interview took place in the early part of the evening, after which she took supper, and retired rather dejected, as they say, perhaps, than otherwise. What agency the operation of this tender passion may have had in producing her death, I leave to the curious to determine; she, however, literally, if not amorously, died of a broken heart.

INTELLIGENCE.

FOREIGN.

Singular Disease, from Thompson's Annals of Philosophy, July, 1814.

In the country of Nogays, a tribe of Tartars, dwelling between the Black Sea and the Caspian, on the south side of the Kuma, there still exists a very singular disease, which is mentioned by Heroditus, and several of the other ancient Greek writers. Heroditus informs us that when the Scythians were inhabitants of Asia, they advanced towards Egypt; but were prevailed upon by Psammetichus, king of that country, to desist. On their return through Syria, they plundered the temples of Urania, in the city of Askalon. In consequence of this, the goddess sent a feminine disease among them.

Reineggs is the first modern writer who mentions the present existence of this disease among the Nogays, who are at present subjects of the Russian empire. Count Potocki, when travelling along the Kuma, in 1798, met with an old man who had this disease. He informs us that such persons are called Coss; and that the disease is not unknown in Turkey, where those subject to it have received the same appellation. The disease, as far as it has been described by Reineggs and Potocki, is distinguished by the following symptoms. It only attacks old persons. The skin grows wrinkled, the beard falls off, and the person assumes completely the appearance of a woman. He becomes incapable of propagating his species, and his sentiments and actions lose their masculine character. In this state he is obliged to shun the company of men, and to associate with women, whom he perfectly resembles. The disease is now rare.

From the Edinburgh Medical and Surgical Journal, October, 1814.

Mr. Price Wynnes, an English apothecary, has treated hydrophobia successfully by copious blood-letting, after the plan recommended by Drs. Schoolbred and Tymon, of India. He insists upon the necessity of abstracting the blood very rapidly, so as to induce syncope. Twenty ounces of blood were taken from his patient in six minutes, when he fainted; and he states that the pulse could scarcely be felt for an hour. When he recovered, all the distress of countenance left him, and he asked for drink, which he took, and was very much refreshed; the bare mention of which before, occasioned indescribable suffering. The next morning some threatening symptoms appearing, he was again bled, with the same happy effect. No further symptoms recurred, and the patient recovered.

From the Edinburgh Medical and Surgical Journal, April, 1814.

Alexander Macauley, a British Naval Surgeon, when at Calcutta, tied the left carotid artery, for a wound about the posterior angle of the jaw, and the patient recovered He applied two ligatures, and divided the artery between them; and, " as I was doubtful," says he, " of the one next the heart, I put one more on that part of the vessel, previous to dividing it." Had he been acquainted with the practice of passing the ligature through the artery, the other ligature perhaps would not have been applied.

From the Journal de Physique, tom. lxviii. p. 237.

The discovery of Morichini, who first found fluoric acid in animal substances, and obtained it from the teeth, has been confirmed by Berzelius. He has procured this acid from other human bones besides the teeth, and also from the bones of the ox; and ascertained that every 100 parts of these bones contain two parts of the fluat of lime.

He has also discovered that fluoric acid exists in urine.

From the Annales de Chemie tom. lxxviii. p. 100.

Diabetic Urine.—Dr. John has found that diabetic urine, although devoid of urea and gelatine; yet contains azote, sugar, animal gum, urate of potass, sulphate of potass, muriate of soda and ammonia, phosphate of magnesia, and phosphate of iron.

From the London Med. Surg. et Pharmaceut. Rep. for October, 1814.

Water of the Nile.—According to Dr. Clarke the traveller, who analyzed this water, it contains the carbonate of magnesia, lime, and iron; the muriate of soda; and a small portion of silex and alumen. It is one of the purest of known waters; remarkable for its easy digestion by the stomach, and for its salutary qualities in all the uses to which it is applied. The mud or slime left by this water is found to consist principally of alumen in a state of great purity; it contains half its weight of this substance: the rest is carbonate of lime, water, carbon, iron-oxyde, silex, and carbonate of magnesia. It is found a sufficient manure for the land, without any dung.

Mem. de l'Acad. de St. Petersburg. tom. iii. p. 76.

Gum of Lichens.—M. Pallas having stated that the Cossacks of Ouval use as bread the lichen esculentus, in times of scarcity, under the name of bread of the desert, Kirchoff, a Russian chemist, was desired by the Petersburgh Academy, to analyze this species of lichen, and also that denominated corolloides. He found in 100 parts of the first species, 13 parts, and in an equal quantity of the second, 14 parts of a transparent gummy matter, of a yellow colour approaching to brown, and perfectly analagous to gum Arabic; the relations which the solutions of this substance and of the true gum Arabic have with other bodies being exactly the same, M. Kirchoff found that the gummy matter is more abundant in these lichens, if they be collected before they have arrived at complete maturity.

We are informed by an intelligent friend lately from Europe, that the *internal illiac* artery has been successfully taken up for a Gluteal Aneurism. It was performed by an English Surgeon in the West-Indies, by an incision through the parietes of the abdomen, similar to that for securing the external illiac.

DOMESTIC.

A singular instance of inanition has fallen under our observation, in the case of a black girl, aged 19; servant of a respectable gentleman in this city. She is of a phlegmatic temperament, of unaffected simplicity of manners, and has always conducted with the utmost fidelity as a servant. She has been uniformly healthy, excepting a cessation of her menstrual discharge for a few months past, and even that did not affect her general health. In consequence of a depression of spirits, produced by an unmerited reproach from her master, she resolved on fasting till he was satisfied of her innocence.

She says that after going without food two days, she had no disposition to eat any, and when she made the attempt a small quantity gave her pain in the stomach. From that time which was about the first of June, she took no solid food, during the three succeeding weeks. She then ate three small biscuit or crackers, but as they produced pain in her stomach and as her appetite did not return, she could not be persuaded to take any more until the expiration of six weeks. For two weeks succeeding this time, she was confined to her room by excoriations produced by the acrimony of her urine, and a sainious discharge from the vagina.

During this time she was persuaded to take five crackers boiled in water with a little milk. She was now enabled to return to her labor, but continued without taking any animal food till the 12th, of October. On particular enquiry we were now informed by the gentleman and lady with whom she lived (and we believe them to be of unquestionable veracity) that during the last four months she had been constantly at home, that she had no communication with friends or neighbors,—that she had attended faithfully to her domestic duty, and with the exception of the two weeks above alluded to, she had enjoyed good health—That she had taken no solid food but what had been mentioned—That she usually drank about half a pint of cider a day and that upon it alone they believed she subsisted. That she had taken repeated doses of neutral salts and castor oil, but had had no evacuation from her bowels during the whole time.

As there was not the emaciation of body or diminution of strength indicative of total abstinence, we could give but little credit to a detail so improbable ; but from the candid and ingenuous conduct of the girl, the unqualified testimony of the family in which she lived, and particularly, from the state of her excretions, we were led to give the case a more particular investigation. With her own consent she was confined to a small room for two weeks with the provision that she might have any thing to eat or drink which she should request. During this time she ate nothing nor had she any evacuation from the bowels. She subsisted upon cider and water; of which she drank half a pint daily. Her strength was somewhat impaired and she diminished in weight fourteen pounds.

The femoral (or rather inguinal) aneurism mentioned in our first number, was successfully operated upon by Dr. Post, by taking up the external illiac artery. The tumor extended so far above Poupart's ligament, and adhered so firmly to the peritoneum, that it could not be separated—the peritoneum was divided—only one ligature was applied.

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